Doctoral Thesis

The psychosocial role of volunteering and paid work: a dual analysis of their relation to work-life balance and mental health

Author(s):
Fernandes Ramos, Romualdo

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THE PSYCHOSOCIAL ROLE OF VOLUNTEERING AND PAID WORK: 
A DUAL ANALYSIS OF THEIR RELATION 
TO WORK-LIFE BALANCE AND MENTAL HEALTH

A thesis submitted to attain the degree of

DOCTOR OF SCIENCES of ETH ZURICH

(Dr.sc.ETH Zürich)

presented by

ROMUALDO FERNANDES RAMOS

lic.phil. Universität Zürich

born on 02.05.1983

from Buenos Aires, Argentina

accepted on the recommendation of

Prof. Theo Wehner
PD Dr.med. Georg F. Bauer
Dr. Rebecca Brauchli
Prof. Michael Siegrist

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SUMMARY

This thesis investigates the relationship between work-related mental health and two work domains: paid work (the traditional object of study in work psychology and occupational health) and voluntary work. So far, most research has observed these two areas of activity separately, and in the less studied case of volunteering, much of the focus has been on the retired population. Based on a broad theoretical foundation, ranging from lifespan and motivation theories to occupational health models and multiple role hypotheses, this thesis explores both domains independently from one another and in interaction. In so doing, it unveils mechanisms that could explain, and contextual factors that could influence the link between paid work, voluntary work and work-related health outcomes (i.e. stress, burnout, work engagement and positive mental health).

The thesis builds on cross-sectional data from two online surveys using two independent samples. Participants were recruited through a panel data service provider with an extensive pool of panelists throughout Europe. Analyses of both samples revealed not only representativeness when compared to the larger population, but also similar demographic patterns between volunteers and non-volunteers. In addition, an extensive literature review was conducted in order to extract relevant findings related to volunteering and health.

Results yielded several insights worth of further investigation: (1) While it is known that paid work conditions influence health, data suggests that age and age-related covarying factors, such as job tenure and job position, interact with different job demands and resources, yielding differential effects on burnout and work engagement, (2) the relationship between the extent of volunteering and work-related health could be explained by an added sense of work-life balance or, more specifically, less work-life conflict, (3) the relationship between volunteering and work-related health is in part moderated by the working conditions at the paid work and the type of motivation that drives the voluntary work, (4) a literature review of primarily longitudinal studies further supports some of the empirical evidence we obtained cross-sectionally, and suggests further explanatory mechanisms and moderating contextual factors. The review also shows that the relationship between volunteering and health seems to be bidirectional; i.e. volunteering might promote health, and health (not only mental, but most notably social health) seems to increase the chances of becoming a volunteer, hinting toward self-selection processes.
ZUSAMMENFASSUNG


Die Datenauswertung lieferte einige Erkenntnisse, welche neue Forschungswege eröffnen können: (1) Während der Einfluss von Erwerbsarbeitsbedingungen auf die Gesundheit bekannt ist, zeigen die Daten, dass Alter und altersbezogene kovariierende Faktoren wie Anstellungsdauer und Typ der Stelle mit verschiedenen Arbeitsbelastungen und –ressourcen interagieren, was zu differenziellen Effekten auf Burnout und Arbeitsengagement führen kann. (2) Der Zusammenhang zwischen dem Ausmass an Freiwilligenarbeit und arbeitsbezogener Gesundheit könnte durch eine bessere Work-Life Balance bzw. weniger Konflikte zwischen Arbeit und Privatleben erklärt werden. (3) Die Beziehung zwischen Freiwilligenarbeit und arbeitsbezogener Gesundheit wird z.T. sowohl durch die Arbeitsbedingungen in der Erwerbsarbeit als auch die Motivation hinter der Freiwilligenarbeit modertiert. (4) Eine Literaturrecherche von mehrheitlich Längsschnittstudien untermauert einige der empirischen Befunde dieser Abhandlung, welche sich auf Querschnittsdaten stützen und thematisiert zusätzliche erklärende Mechanismen und moderierende kontextuelle Faktoren. Der Review zeigt weiter, dass die Beziehung zwischen Freiwilligenarbeit und Gesundheit bidirektional ist; d.h. Freiwilligenarbeit kann Gesundheit fördern, und Gesundheit (nicht nur psychische, sondern auch und insbesondere soziale Gesundheit) erhöht die Wahrscheinlichkeit von freiwilligem Engagement, was auf Selbstselektionsprozesse hindeutet.
1. INTRODUCTION

The workforce is in a constant state of flux, presenting new opportunities, but also great challenges and demands to the worker of the 21st century. The ramifications of such changes can be observed at the individual level, most notably in the realm of health and well-being. Research on occupational health has proliferated unceasingly since the late seventies, and this trend is not unwarranted: Job stress has become pandemic, turning into one of the leading causes of cardiovascular disease and depression, among other physical, psychological and emotional impairments (Theorell & Karasek, 1996; Kivimäki et al. 2012). Sources of job-related stress in today's competitive globalized market are time pressure, work accumulation, scarce personnel, limited autonomy, job insecurity, and also the development of new technologies that allow availability around the clock (Michie, 2002; Derks, Brummelhuis, Zecic & Bakker, 2014).

Yet changes are not limited to the way we work and the working conditions. There have also been drastic shifts in societal values with respect to work (particularly in Western countries). Today’s generation places a strong emphasis on the balance between work and personal goals (Smola & Sutton, 2002). A global survey with over 200,000 respondents showed that the top priority in today’s workforce is recognition for their work, followed by good social relationships and a good work-life balance. An attractive salary ranked eighth in this list (Strack, von der Linden, Booker & Strohmayr, 2014). A survey in Switzerland revealed that, when it comes to work, people prioritize meaningfulness in what they do over career prospects (Hoffnungsbarometer Schweiz, 2014).

To top off this intricate landscape, there is also a fast demographic change in progress: the workforce is ageing in most industrialized countries. This is primarily the result of increased lifespans and the subsequent increases in the retirement age, and lower birth rates resulting in fewer younger workers entering the workforce. These changes have far-reaching implications in all spheres of society (Truxillo & Fracaroli, 2013).

Bearing in mind this scenario, it is not surprising that researchers have begun to expand the way they conceive work and work-related health. With respect to the latter, there has been a long tradition in occupational health to concentrate on health impairment; i.e.
identifying and combating sources of injury, disease and stress. This pathogenic approach to health (best exemplified in the opening paragraph) has been challenged in the last two decades, reminiscing Aaron Antonovsky’s contributions to salutogenesis (Antonovsky, 1987) and in reaction to the surge of literature in positive psychology (Seligman & Csikszentmihalyi, 2000). Based on the definition of health as “a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity“ (WHO, 1948), the salutogenic approach emphasizes positive aspects and conditions in the work domain that promote health, well-being and thriving. At the core of the salutogenesis lies the notion of “sense of coherence”, which, in a nutshell, can be defined as the global orientation toward feelings that (a) our internal and external environments are structured and predictable (comprehensibility), (b) we have the resources to meet the demands of such environments (manageability) and (3) that such demands are challenges worthy of our effort and engagement (meaningfulness; Antonovsky, 1987). Meaningfulness, as the motivational and central element of a sense of coherence, makes the abovementioned findings in Switzerland all the more intelligible.

In terms of the definition of work in occupational sciences, most studies have dealt (and naturally still do) with remunerated work, i.e. paid work. Yet an ever-growing community has shifted its attention toward volunteering. We define volunteering (or voluntary work) as the sustained, unpaid work within an organization for the benefit of the environment or individuals other than, or in addition to, close relatives (Volunteering England, 2014). It requires an investment of time, it could be carried out by a third person and could theoretically be remunerated (Wehner, Mieg & Güntert, 2006). Between 25 and 30 percent of the population in countries like the US and Switzerland work as volunteers in some type of non-profit organization (Stadelmann-Steffen et al., 2010; Bureau of Labour Statistics, 2013). There is no doubt that societies benefit to a great extent from volunteering: not only does it alleviate the social expenditure, but it also strengthens bonds and solidarity within communities. At the individual level, a burgeoning literature shows that volunteering is associated with better health and well-being (Grimm, Spring & Dietz, 2007; Musick & Wilson, 2003). More specifically, volunteering has been associated with better self-rated health, lower depression levels, lower mortality rates, lower frequency of hospitalization, and overall life satisfaction, among other health-related outcomes (Luoh & Herzog, 2002; Musick & Herzog, 1999; Thoits & Hewitt, 2001; Yuen, Burik & Krause, 2004). This has proven to be the result of ongoing positive social interactions, a sense of fulfillment and meaningfulness,
boosted self-efficacy and, in more general terms, a rewarding sensation of giving something back to society (Greenfield & Marks, 2004; Piliavin & Siegl, 2007); all these being traits that highly coincide with workers’ expectations of their paid jobs (Hoffnungsbarometer Schweiz, 2014; Strack et al., 2014).

People in the workforce represent the largest segment of the volunteering sector. In the United States, for instance, the highest rate of engagement is found in the 35-to-44-year-old bracket (Bureau of Labor Statistics, 2013). The Volunteering Monitor in Switzerland -though scaled differently- reports similar age patterns, with the highest rate of volunteers found between 40 and 64 years of age (Stadelmann-Steffen et al., 2010). This coincides with the generativity motives that arise in midlife (McAdams, de St. Aubin & Logan, 1993). The Volunteering Monitor further reveals that, against all odds, people in the workforce are more likely to volunteer than the unemployed (e.g. laid-off personnel, students, housewives and senior citizens). This is depicted in Figure 1. The graph also shows that, in the case of men, the rate of volunteering increases as a function of their level of employment.

![Fig.1. Percentage of formal volunteering in relation to levels of employment in Switzerland, 2009 (weighted values). Data from Stadelmann-Steffen et al., 2010](image)

Despite this above-average engagement of people in the workforce, most research on volunteering and health has primarily focused on the retired population (for reviews see Casiday et al., 2008; Jenkinson et al., 2013). There is a number of reasons as to why this is the case: first of all, there is a practical rationale, which is to identify activities that allow individuals to live longer, independent and healthy lives (what gerontologists call “successful aging”; Rowe & Kahn, 1997). Implicit in this statement is also the fact that the older population is clearly more vulnerable to illness, thus showing greater health variability. This, in turn, might statistically facilitate results, making the effects all the more salient. But some
researchers go further in suggesting that older volunteers in fact benefit more (physically, mentally and socially) than their younger counterparts (Grimm et al., 2007). The idea is that volunteering might compensate the otherwise cut-down social interactions (caused by the withdrawal from the workforce), providing older individuals with a purposeful social role. In that sense, volunteering may operate as a psychosocial resource, granting access to experiences that are crucial for human functioning and well-being: experiences of meaningfulness, mastery and connectedness (Ryff, 1989). It is also hypothesized that younger volunteers may not reap the same benefits as their participation might be, to some extent, linked to other obligations (e.g. parenting, career chances) whereas the voluntary engagement of older individuals is more likely to be discretionary (Grimm et al., 2007).

The present thesis departs from the gerontological perspective on volunteering and health and considers both paid work and voluntary work in tandem. This large population segment may not be yet experiencing the natural decay of health caused by aging at its fullest, but it is increasingly being exposed to job-related stressors, which highly correlate with ill-health. In that sense, just as it is important to develop successful aging strategies, it is also crucial to have a better grasp of activities that might ward off job stress while fostering health and well-being. In so doing, it becomes paramount to understand the psychosocial aspects at the paid work first, and how their relevance might change at different ages, life or career stages, auguring the orientation toward generative activities such as voluntary work during midlife.

In light of this knowledge and open questions, the goal of the present thesis is to better understand the dynamics of both paid work and voluntary work and their relationship to work-life balance and work-related health. To that end, both domains will be observed in isolation (Paper 1 deals with paid work only; Paper 4 with voluntary work only) as well as in conjunction (Paper 2 and 3). In a first step, we will delve into the theoretical and empirical foundations of this thesis, which differ in predominance in each of the four papers. Second, we will define the goals of the thesis, establishing the common thread among all four papers. Third, the methodology and the data on which this thesis is based will be discussed, highlighting the role of the PhD candidate in each instance of the research process. Finally, a summary of all four papers will be presented, followed by an integration of the articles, strengths and limitations, practical implications and paths for future research.
2. THEORETICAL BACKGROUND

2.1. Work, age and the lifespan approaches

We are witnessing the concurrence of, on the one hand, a young generation of workers with changing work values (Deal et al., 2010; Smola & Sutton, 2002) and, on the other hand, a rapid-growing, aging workforce (Hedge, Borman & Lammlein, 2006). Values, priorities and motivations among generations might collide and coincide in some points, and changes occur at both the interindividual and intraindividual level. For this reason, researchers in occupational health -and more specifically in work and organizational psychology- have moved past the times in which age was considered a mere control variable and are now investigating it as a central focus of study (Truxillo & Fraccaroli, 2012).

Theoretical frameworks that have strongly influenced queries on age and work are the selection-optimization-compensation theory (SOC; Baltes & Baltes, 1990) and the socioemotional selectivity theory (SST; Carstensen, 1992). Both theories assume a shrinkage of resources as we age, causing a shift in our priorities and the way we go about interacting with the environment. Baltes and Baltes (1990) suggest that successful development over the lifespan can be achieved by means of three strategies: by making a strict selection of highly valued goals on which we will allocate our resources, by optimizing one's potential in order to fulfill such goals and by compensating the loss of resources by engaging in alternative activities that might contribute to their restoration.

In SST, the decisive resource is time. As people grow older, they begin to feel that time is running out (Carstensen, 2006), thus becoming increasingly selective in the allocation of resources. According to SST, two broad types of goals shift in relevance as a function of perceived time left: those concerning the acquisition of knowledge and those concerning the regulation of emotional states (Carstensen, 2006). When time is perceived as open-ended, knowledge-related goals will tend to be prioritized, as they are instrumental in the preparation of future new experiences. When time is perceived as limited, people relativize the importance of long-term, horizon-expanding goals, and they gravitate toward emotional experiences from which they can derive emotional meaningfulness.
This theoretical edifice is relevant to the field of occupational health psychology—and to this thesis in particular—at least in two ways: given the shifts in needs and priorities across the lifespan, it becomes apparent that the different job characteristics may have different ramifications at different stages in one’s working life. This puts into perspective any intrinsic goodness or badness of job demands and resources, shattering the notion of invariance across ages that many occupational health models assume (see Korunka, Kubicek, Schaufeli & Hoonakker, 2009). May this be illustrated with an empirical example: it has been shown that whereas task variety was associated with less burnout and lower turnover intentions among younger workers, skill variety was associated with lower turnover intentions among older workers (Zaniboni, Truxillo & Fraccaroli, 2013). The light subtleness behind these two constructs (which otherwise are subsumed into a single latent variable of job resources) managed to yield differential outcomes for young and older workers. Whereas task variety (i.e. different, novel tasks) might be seen as a way of gaining experience for younger workers, skill variety (i.e. application of different skills) might be an opportunity to bring knowledge and experience into work. As suggested by Carstensen (2006) older workers are less driven by knowledge acquisition and more so by knowledge application, which boosts feelings of mastery, triggering a positive emotional state. Finally, both theories help to understand the beneficial effects of volunteering as we get older. Once individuals reached the pinnacle of their working life and start perceiving their future perspectives as limited, they begin to invest more energy on those goals and activities that spur positive social bonds and which have an emotional value. The observation of differential effects of job characteristics in the paid work may presage the later tendency toward voluntary work in midlife.

2.2. Work-life balance and Role theory

The observation and study of working individuals requires a thorough understanding of their experiences and state of mind, going beyond the realm of work and delving into the interactions between different life roles (Brauchli, 2010). Within this context, the term work-life balance (WLB) has gained momentum in the last years, becoming lay language and standing at the core of the societal debate. In research, however, there has been much dissent as to what is meant by WLB. It is crucial to understand that the notion we have today of WLB derives from a research tradition with a somewhat narrower scope. It started as a field of research on the reconciliation between work and family life. The dominating perspective in the field was on work-family conflict (WFC; also work-family interference; Greenhaus &
Allen, 2010). WFC takes places when role pressures from work and family are mutually incompatible such that participation in one role is made more difficult by virtue of participation in the other role (Greenhaus & Beutell, 1985). This is well in line with one of the core premises of role theory (Katz & Kahn, 1978), which posits that the occupation of several roles (e.g. employee and parent) can lead to role strain. The role strain hypothesis is in turn based on the assumption that human resources and energy are scarce (Marks, 1977; c.f. section 2.1.; Baltes & Baltes, 1990). WFC has been -and is- of interest to the field of occupational health psychology due to its relationship with a plethora of psychological and physical health outcomes (Greenhaus, Allen, & Spector, 2006). Yet the construct has been criticized on the grounds of (a) its restriction to family, and (b) its understanding of the work/non-work interaction as conflictive only. The focus on the family domain limits the scope to the population with family responsibilities. Moreover, it does not consider other life domains such as hobbies or -most relevant to this thesis- volunteering. Regarding its focus on conflict, more recent theoretical developments have also started to contemplate potential gains among domains. The role enhancement hypothesis (Grzywacz & Marks, 2000) argues that the participation in multiple roles might provide individuals with new opportunities and resources that could help toward a better functioning in other life domains (Barnett, 1998). This proposal lies on Marks’ expansion perspective, which posits that activity is needed to stabilize the production of human energy - a homeostatic process in a way. While we are spending energy, we are also converting it for later use (Marks, 1977). In other words, the adequate management of multiple roles may also create energy (Geurts & Demerouti, 2003).

But how can we define “adequate” or, for that matter, “balance”? While many definitions of the word balance imply equality (WLB is in fact often depicted through a scale in equilibrium), other definitions state that balance is the "harmonious or satisfying arrangement or proportion of parts or elements" (American Heritage Dictionary, 2000). This understanding suggests that WLB is not necessarily an equal allocation of efforts in work and life, but reaching a satisfying threshold of accomplishment in different roles such that they fit one's current priorities, values and needs (c.f. Carstensen, 2006). The priority of different life roles varies between and, as suggested by lifespan approaches (see section 2.1.), within individuals, often in reaction to major life transitions (Sweet & Moen, 2006).

In order to grasp the multiplicity of life roles, some researchers in the field have proposed new concepts. Greenhaus and Allen (2010), for instance, talk about "life balance", Without Loss of Generality (WLG)
which can be described as "an overall appraisal of the extent to which individuals' effectiveness and satisfaction in multiple life roles are consistent with their values regarding work, family, leisure, self-development, community and spirituality" (p.179). Along the same vein, Ulich and Wiese (2006) coined the term “life domain balance”, considering all life domains with both their negative and positive qualities. They argue that such domains compete for the time and energy of an individual, but they can also complement each other.

In this thesis, WLB (Paper 2) is understood and operationalized as both the conflict and enrichment between work and an array of life domains (family, friends, partner, leisure activities, etc.). In the light of experimental studies showing that helping behavior can - counterintuitively- give a sense of time affluence (Mogilner et al., 2012), we apply the same logic in the natural setting of volunteering and, by analogy, propose that voluntary work might hamper perceptions of conflict while boosting perceptions of enrichment among life domains, thus conveying feelings of balance.

2.3. Work Design and the Job Demands-Resources Model

Work design (also referred to as work conditions, job characteristics or psychosocial factors at work) has proven to be a crucial determinant of individual, group and organizational outcomes (Morgeson & Campion, 2003). In the field of occupational health psychology, it is considered the most powerful contextual factor in determining workers' health and well-being (Pinder, 2008). During the last 40 years, several models have been developed in an attempt to elucidate the link between work design and health. The demand-control model (DCM; Karasek 1979) and the effort-reward imbalance model (ERI; Siegrist, 1996) have dominated the field for some time. The DCM assumes that job strain (e.g. job-related anxiety, exhaustion, health complaints) results from the combination of high job demands (particularly work overload and time pressure) and low job control, i.e. limited autonomy on how to meet such demands. The ERI model downplays the role of control, emphasizing the reward structure at work. It posits that job strain is caused by an imbalance between effort (determined by the extrinsic job demands and the intrinsic motivation to fulfill them) and reward (understood in terms of salary, satisfaction, esteem reward and career opportunities). While there has been vast empirical support for both models (for reviews see Van der Doef & Maes, 1999; Van Vegchel, De Jonge, Bosma & Schaufeli, 2005), their scope has been limited in two ways: first, they reduce the complex reality of organizations to a handful of job
characteristics, which might not be relevant to all types of occupations and which do not represent the broad range of job demands and resources. Second, in line with the pathogenic tradition, both models focus almost exclusively on job strain, without considering positive health outcomes.

The Job Demands-Resources model (JD-R, Demerouti, Bakker, Nachreiner & Schaufeli, 2001) addresses these caveats, proposing an overarching model applicable to different occupational settings. It extends the notion of job demands, defining them as “those physical, psychological, social or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs” (Bakker & Demerouti, 2007; p.312). Examples of job demands are workload, job insecurity, social conflict and emotional demands. Job resources, on the other hand, encompass “those physical, psychological, social or organizational aspects of the job that are either functional in achieving work goals, reducing job demands and the associated physiological and psychological costs or stimulate personal growth, learning and development” (Bakker & Demerouti, 2007; p.312). Examples of job resources are job autonomy, job significance, social support, variety and feedback. In line with salutogenic approaches (Antonovsky, 1987) and positive psychology (Seligman & Csikszentmihalyi, 2000), the model puts forth a dual process (Schaufeli & Bakker, 2004): on the one hand, a health-impairment axis, in which job demands predict burnout and negative health outcomes (e.g. stress, health complaints). Burnout is defined as the prolonged response to chronic, work-related stressors, and is characterized by exhaustion, cynicism and inefficacy (Maslach, Schaufeli, & Leiter, 2001). On the other hand, there is a motivational axis, where job resources are the antecedents of work engagement and positive health outcomes (e.g. vitality, positive mental health, well-being). They define work engagement as a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication and absorption (Schaufeli & Bakker, 2004). Moreover, the JD-R model suggests that job resources can buffer the deleterious effects of job demands (Bakker, Demerouti, & Euwema, 2005).

This thesis borrows much of the rationale behind work design research and applies the JD-R logic in two distinct ways: On the one hand, this thesis considers job characteristics as isolated, single factors (instead of subsumed in two latent variables; Demerouti et al., 2001), in an attempt to understand the role of age and other covarying factors in their relation to
health outcomes (Paper 1). This differentiating approach has been suggested by state-of-the-art reviews on the topic (Truxillo et al., 2012). On the other hand, this thesis views job demands and resources as interactive components of a larger context, which encompasses different roles and domains (see Section 2.2). This idea is depicted on the Organizational

![Organizational Model](image)

**Fig. 2.** OHD Model (Bauer & Jenny, 2012), highlighting the focus of the current dissertation.

Health Development model (OHD; Bauer & Jenny, 2012; Fig. 2), which has guided our recent research agenda. This model has been the starting point for both an expanded, research-oriented version of the JD-R model (Brauchli, Jenny, Füllmann & Bauer, under review) as well as condensed, praxis-oriented score calculations (JD-R ratio; Jenny, Brauchli, Füllmann & Bauer, under review). This dissertation focuses on the lower part of the model; that is, on the individual sphere. Research has already provided some insights on the interaction between JD-R, individual capacities and the individual environment. For example, Xanthopoulou et al. (2007) investigated the role of personal resources (i.e. individual capacities such as self-efficacy, organizational-based self-esteem and optimism) in the JD-R model, showing that they did not offset the effects of job demands on exhaustion, but they did mediate the relationship between job resources and outcomes (i.e. exhaustion and work engagement).
When observed longitudinally, personal resources even managed to influence perceptions of job resources (Xanthopoulou et al. 2007). As far as the individual environment is concerned, research in WLB (see section 2.3) has shown that negative work-home interference (i.e. work-life conflict) partially mediated the relationship between psychological job demands and emotional exhaustion (Janssen et al. 2004). In this thesis, volunteering is presented as a potential psychosocial resource\(^1\); a behavior rooted in the individual environment which, when self-determined (see Section 2.4), can promote individual capacities (e.g. sense of competence, optimism, etc.). The latter, in turn, can foster health and well-being (Chen et al., 2001; Pierce et al. 1989). In Paper 2 of this dissertation, paid job characteristics were used as control variables, entered in the regression models in two separate steps, allowing to weigh the effect of demands and resources respectively, and to assess the effect of volunteering above and beyond paid work conditions. Finally in Paper 3, we used the JD-R ratio (Jenny et al., under review) as a way of creating a simplified profile of participants’ overall work conditions, which was entered in the model as a single moderating variable.

2.4. Self-determination theory and the functional approach to volunteers’ motives

Self-determination theory (SDT) is a macro theory of human motivation based on the assumption that individuals have an innate desire for personal growth (Deci & Ryan, 2000). Such growth is achieved through the fulfillment of three basic psychological needs, which are the essence of human thriving and development: need for autonomy (i.e. freedom over one’s behavior, with no or little external forces and in line with one’s values and needs), competence (i.e. feelings of mastery and self-efficacy derived from the application of one’s skills and knowledge in ways that bring about positive change) and relatedness (i.e. the need for close interpersonal relationships; Weinstein & Ryan, 2010). Research has shown that the satisfaction of these psychological needs is associated with a myriad of positive outcomes including performance, organizational commitment, self-esteem and well-being (Gagné & Deci, 2005; Ryan & Deci, 2001).

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1 At this stage, it might have become apparent that we did not consider the specific job characteristics of voluntary work. While the latter were assessed, we did not find any significant pattern with health outcome variables. This does not seem unlikely as the specific job characteristics in this domain are far more distal from health outcomes than it is the case for paid job characteristics. Voluntary work design becomes more relevant in questions related to satisfaction and retention of volunteers (Van Schie, 2013). Hence, in this thesis we understand volunteering as a psychosocial resource on its own right; for the most part, a self-determined behavior—with all the positive aspects that entails.
The SDT departs from the traditional dichotomous view on motivation (i.e. extrinsic vs. intrinsic) and proposes instead a continuum on the quality of motivation. This continuum rests on the assumption that extrinsically motivated behavior can become self-determined by means of internalization. At one end of the continuum, we find external regulations, which are driven by a desired consequence or outcome. Thus, people engage in a behavior only when it is instrumental in obtaining that outcome. When a person has taken in a certain behavior yet without truly accepting it as his or her own, we are in the presence of introjected regulation. This is often observed when the ego is at stake (Ryan, 1982). When a person can identify with the values attached to a particular behavior, it is then considered an identified regulation. In this case, people experience a greater sense of volition, as behaviors are more in line with their personal goals and identities. When the behavior is perceived as an integral part of a person’s identity, and it is extended to other life domains, the regulation is said to be integrated. Albeit autonomous, integrated regulation is still extrinsic, as it is not the activities per se that spark people’s interest. Finally, when people display intrinsic regulation, the behavior is triggered by a genuine interest in the activity itself and, thus, it is a prototypically autonomous behavior (Gagné & Deci, 2005).

In volunteering research, the predominant view on motivation has been the functional approach (Clary et al., 1998). The authors claim that volunteering can fulfill six goals or functions, which are the basis of the Volunteers’ Functions Inventory (VFI). They label the six functions as: values (e.g. “I can do something for a cause that is important to me”), understanding (e.g. “Volunteering lets me learn things through direct, hands-on experience”), enhancement (e.g. “Volunteering makes me feel better about myself”), social (e.g. “Volunteering is an important activity to the people I know best”), career (e.g. “Volunteering experience will look good on my résumé”) and protective (e.g. “By volunteering I feel less lonely”). To be sure, there have been attempts to juxtapose the functional approach to volunteers’ motives onto the more global continuum put forth by SDT (see Finkelstein, 2009; MacLellan & Kelloway, 2014; Oostlander et al., 2013). In her validation article of the German VFI-Scale, Oostlander et al. (2013) ran correlations between the six functions and the different types of behavioral regulation, showing that the constructs map onto each other in predictable ways. Figure 3 shows the approximate placement of these functions along the SDT continuum.
This thesis draws from motivation theories in both specific and generic ways. Specifically, this thesis tests the hypothesis that the degree of self-determination in voluntary work may play a pivotal role in the unfolding of positive health outcomes (Paper 3). In more general terms, this thesis borrows much of the rationale behind SDT, starting by the shared understanding of well-being as eudaimonic (Ryan & Deci, 2001; Ryff, 1989). Contrary to hedonic well-being, which is a more transient state and based on immediate sources of gratification (often operationalized as happiness), eudaimonic well-being implies a long-term perception of self-actualization. This thesis operationalizes eudaimonic well-being as positive mental health: the presence of emotional, psychological and social well-being (Lamers et al., 2011). In the work domain, this can be achieved by designing work in ways that foster autonomy, mastery, positive relationships and purposefulness (c.f. Ryff, 1989).

2.5. Integration of theoretical and empirical account

The rich spectrum of theories, hypotheses and models underlying this thesis is a reflection of the complexity encountered when studying different life domains. Bluntly put, humans do not dispose of a switch that allows them to take on a role leaving all others behind. Instead, life roles are in constant interaction. This interaction can lead to role strain (Marks, 1977) but also to role enhancement (Grzywacz & Marks, 2000; see section 2.2.). The quantity and quality of life roles change throughout a person’s life. Along with these changes comes a shift in resources (Baltes & Baltes, 1990), values, needs and motivation (Carstensen, 2006; see section 2.1.). With age – and the accompanying private and career milestones - people...
become less extrinsically motivated and gravitate more toward self-determined goals, with emotional significance and long-term resonance (Carstensen, 2006; c.f. Deci & Ryan, 2000; see section 2.4). When applying these insights to the work domain (both remunerated and voluntary work), it becomes apparent that different job characteristics (see section 2.3) might be more or less relevant in different life stages, with emotionally significant experiences gaining momentum during and after the career’s climax. It is precisely in this context where the interaction between paid work and voluntary work becomes relevant, with the latter allegedly serving a balancing role.

3. GOALS

The goal of the present thesis is to investigate the relationship between, volunteering, paid work, WLB and work-related health. Specifically, it first aims to cast new light on the well-established relationship between paid job characteristics and work-related health, arguing that different job demands and resources might yield differential effects between younger and older workers. As we age, it is expected that emotion-oriented characteristics will leverage over knowledge-oriented characteristics, what could pave the way to understanding the high rate of volunteers among 40-to-64-year-olds. In a second step, the thesis is set to establish whether the relationship between volunteering and health outcomes could be explained through WLB perceptions; a mediating variable specific to this gainfully employed sample of volunteers. In a third step, the thesis aims to explore the interaction effect of volunteering status, motives to volunteer and overall paid work conditions on work-related health. Finally, it concludes with an overview of the literature on volunteering and health, broadening the scope of mediators and moderators, and shedding light on causal directions. Figure 4 depicts the overall research model. This model helps to structure the different contributions of this thesis, in which the independent, additive and multiplicative effects of paid work and volunteering are considered. Next, we will formulate the goals for each paper, highlighting the relevant parts of the model in each case. The detailed models will be presented with the respective summaries in section 5.

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2 While age has been considered as control variable throughout all the analysis (as shown by the dashed arrows throughout the model) only in Paper 1 was it considered central focus of study.
**Paper 1:** To analyze age-related differential effects of paid job characteristics on work-related health outcomes. Based on the extensive literature on work design and health outcomes, and recent developments within the lifespan approaches (Truxillo et al., 2012), the goal of this paper is to establish whether the relationship between job demands, job resources and health outcomes (i.e. burnout and work engagement) differs across different age groups. In testing this hypothesis, we also consider age-related covarying factors that might also play a role. The aim is to understand these job characteristics less so in terms of demands and resources, but as characteristics that might serve a knowledge or emotion-related goal. In so doing, we attempt to uncover the value and motivational shift that might propel individuals into voluntary engagement in later career stages.
**Paper 2:** To investigate the potential mediation of work-life balance between volunteering and health outcomes. Drawing from research on the salutary effects of volunteering (Grimm et al., 2007; Musick & Wilson, 2003) and the well-established relationship between work-life balance and health outcomes (Greenhaus, Allen & Spector, 2006), this paper analyzes whether volunteering is related to feelings of WLB (understood as the enrichment and the lack of conflict among life domains), which in turn is reflected in better health outcomes. In testing this hypothesis, we control for the effects of paid work demands and resources on health-related outcomes.

**Paper 3:** To explore the moderating effects of paid job characteristics and motives to volunteer on health-related outcomes. This paper pursues two research questions: (1) whether the assumed effects of voluntary work on health are complementary for people with resourceful paid jobs (i.e. good work conditions) or whether they are compensatory for people with less resourceful paid jobs; (2) whether the assumed effects of voluntary work on health are contingent to the type of motives volunteers have for their participation.

**Paper 4:** To review the literature on volunteering and health. This book chapter sheds light on mechanisms that explain the relationship between volunteering and health as well as the contextual factors that either boost or hamper the effects. In addition, this paper focuses primarily on longitudinal studies, in an attempt to address the issue of causality and, in so doing, elaborating on practical and research implications.
4. METHODOLOGY

4.1. Data source and methods

The thesis builds on two datasets from two different projects and a comprehensive literature review. Next, the sampling processes, characteristics of the participants and the scales used in these projects will be discussed.

4.1.1. SNF Project “Volunteering as a psychosocial resource”

In collaboration with research groups at the ETH Zürich and the University of Zürich, and as part of an SNF-funded project (Nr. 100014_135411), the doctoral candidate developed a study on “Work, private life and health”. An online survey was built, pretested during Summer 2012 and launched for data collection in October of that same year. It served as basis for Paper 2 and Paper 3. The questionnaire comprised five blocks:

1) *Reconcilability between work and private life*: In this block of questions, we used the Survey of Work-home Interaction Nijmegen (SWING; Guerts et al. 2006). This 22-item battery assesses both positive and negative spillovers between work and private life domains (family, friends, partner, hobbies). It is a 2x2-factor scale, gauging type of spillover (conflict vs. enrichment) and direction of spillover (home-to-work vs. work-to-home).

2) *Voluntary work and motives to volunteer*: Participants were given a definition of voluntary work, emphasizing the formal organizational infrastructure (i.e. excluding informal volunteering). Only if participants declared being engaged in voluntary work at an organization were they routed to this second block. This part consisted of some brief information on the voluntary activity (frequency and intensity of volunteering, type of voluntary work, tenure, etc), followed by the Volunteers’ Functions Inventory (Clary et al., 1998), a 30-item, six-factor battery assessing volunteers’ motives. We used the validated German scale in this study (Oostlander, Güntert, van Schie & Wehner, 2013).

3) *Work design*: This third block measured working conditions at the paid work and, when applicable, at the voluntary work. Job demands were measured through workload, emotional and cognitive demands, whereas job resources were
measured through job significance, social support and autonomy. Sub-dimensions from two well-established scale were used: the Work Design Questionnaire (WDQ; Morgeson & Humphrey, 2006) and the Health and Safety Executive Management Standards (HSE, Cousins et al., 2004).

4) **Health outcomes**: We measured both negative and positive health outcomes. On the negative axis, we assessed burnout using the 4-item burnout subscale of the Copenhagen Psychosocial Questionnaire II (COPSOQII; Pejtersen et al., 2010). We also assessed general, cognitive and somatic stress symptoms with a COPSOQII subscale (12 items). On the positive axis, we assessed (paid) work engagement with the 9-item Utrecht Work Engagement Scale (Schaufeli et al., 2006). Finally, positive mental health, also known as thriving, which encompasses social, psychological and emotional well-being, was assessed using the short form of the Mental Health Continuum (MHCsf; Lamers et al., 2011).

5) **Demographics**: This block assesses usual demographic variables such as gender, occupation, nationality, marital status, among others.

*Participants*: Participants were recruited through a panel data service provider with panelists throughout Europe. We screened participants based on language/region (German-speaking part of Switzerland), age (18 years old and up) and employment status (employed at least 20 hours a week). A total of 4,325 panelists were invited to participate, of which 803 completed the survey (18% response rate). After excluding speeders, 774 participants were left as the basis for Paper 2 and 3. The final sample for each study was reduced either due to missing values in key variables, or on the grounds of methodological considerations (e.g. equal group size in t-test analyses; Field, 2009). Paper 2 provides descriptive statistics of the total sample and of volunteers and non-volunteers separately. All in all, the sample was quite representative of the Swiss workforce and, particularly of the Swiss volunteering sector when compared to official statistics (SAKE, 2010; Stadelmann-Steffen, et al. 2010): the mean age was 43, there was a higher rate of men (61%) involved in voluntary work (official rate: 65%; SAKE, 2010), volunteers showed higher education levels, and when considering both the frequency and intensity of their voluntary work, they totaled an average of 12.8 hours per month (official average: 13.7 hours per month; SAKE, 2010).
4.1.2. The SoC Project

The SoC Project is a longitudinal online panel study conducted by the Public & Organizational Health research group (EBPI, University of Zürich) on work conditions and work-related health. Its main focus has been on the salutogenic concept “sense of coherence” (SoC; Antonovsky, 1987), with an emphasis on job resources, job crafting and positive health. So far, the project has had 4 waves of data collection. This thesis draws cross-sectional data from the fourth wave (June 2014), which served as the basis for Paper 1. While the SoC project comprised several measures, only those relevant to this thesis will be presented:

1) Work Design: We used a stand-alone scale for the measurement of psychosocial risks at work: the Health Safety Executive Management standards (HSE; Cousins et al., 2004). This scale covers 7 areas of job characteristics (quantitative demands, negative social relations, job control, role clarity, support from colleagues, support from supervisor, and transparency in times of change; for details see Paper 1). The full HSE scale was used in order to perform our systematic study with an instrument known to cover the key areas of work design and with widespread use in both research and praxis (Kerr, McHugh & McCrory, 2009).
2) **Health outcomes:** We focused on burnout and work engagement as the two main concepts in the late occupational health models. Once again, burnout was measured with the COPSOQII subscale (Pejtersen et al., 2010) and work engagement with the Utrecht Work Engagement Scale (Schaufeli et al., 2006).

3) **Demographics:** Most relevant to this thesis were age and age-covarying factors. We observed two covariates in the work domain, namely job position (i.e. whether they had a management position or not) and job tenure (in months).

**Participants:** Like the aforementioned SNF project, the SoC project recruited participants through the same panel data service provider. The target group, however, was extended to workers in Germany, Austria and German-speaking Switzerland. Participants were screened based on age (18-65), workload (at least 20 hours per week) and whether they had an employment contract (i.e. self-employed were excluded). We later reduced this sample further, based on scope considerations (See Fig. 6). The total of respondents in the fourth wave was 2032, of which 1102 were new participants to the panel study. In her dissertation, Vogt (2014) compared the demographics of the sample with those of official data, showing that it was representative of the workforce in these three countries.

![Fig. 6. Sample for Paper 1.](image)

**4.1.3. Literature Review**

The literature review presented in the book chapter (Paper 4) draws from two existing reviews in the field (Casiday et al., 2008; Jenkinson et al., 2013) and from a self-generated database search, abiding to standard search procedures in systematic reviews (Ridley, 2008). However, Paper 4 is not an exhaustive account of the literature as it would be the case in a systematic review. It focuses primarily on longitudinal studies and studies considering contextual factors and potential mechanisms underlying the relationship between volunteering and health.
4.2. **Data analysis**

Correlation analyses were performed in all three research papers in order to visualize relationships among study variables. In all three papers hierarchical multiple regression analyses were run, which allowed us to control first for demographic variables, then for known predictors derived from previous research, and finally assessing the relationship between variables of interest and outcomes (Tabachnik & Fidell, 2007). In Paper 2, we used Hayes’ Process macro (Hayes, 2013) in order to test the mediation model and calculated indirect effects using the bootstrap method (Preacher & Hayes, 2004). In Paper 1 and Paper 3, we used the Hayes’ Process macro in order to test the moderation model, applying the Johnson-Neyman technique to calculate regions of significance where necessary (Bauer & Curran, 2005) and plotting the interactions using the ± 1 SD standard procedure (Aiken & West, 1991). Finally, in the data from the SNF project (Paper 2 & 3), an exploratory factor analysis was conducted and the impact of the first unrotated factor on the outcome variables was assessed (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). This procedure allowed to estimate the risk of common-method bias, showing that this was not a pervasive problem in our data.

4.3. **Contribution of the PhD candidate to the four papers**

The PhD candidate served as first author in all four papers.

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The PhD candidate conceived the questionnaire, programmed the online survey and collected the data. He reviewed and compiled the state-of-the-art literature on the topic, developed the research question in tandem with his co-authors, prepared and analyzed the data, interpreted and discussed the results with his co-authors, wrote the manuscript with feedback rounds from his co-authors.
from his co-authors, and revised and resubmitted the manuscript according to the comments of anonymous reviewers.


The PhD candidate conceived the questionnaire, programmed the online survey and collected the data. He reviewed and compiled the state-of-the-art literature on the topic, developed the research question in tandem with his co-authors, prepared and analyzed the data, interpreted and discussed the results with his co-authors and wrote the manuscript with feedback rounds from his co-authors.


The PhD candidate made a comprehensive search of articles in different databases with the help of an intern student who protocolled the articles. He reviewed the literature, conceptualized the thread of the book chapter in consultation with his co-author, wrote the manuscript and revised it based on the feedback of his co-author, the second book editor and an external reviewer.

In addition, the PhD candidate wrote the reports to the pertaining funding agencies with feedback from the corresponding applicants. Finally (although not part of this thesis), the PhD candidate will author a review article entitled “Volunteering and Health: The chicken or the egg?” (in preparation) where he will further broach the issue of causality discussed in Paper 4, systematically limiting the scope of the review to longitudinal studies with unidirectional and bidirectional analyses. The review will also reach a broader, English-speaking audience.

5. **SUMMARY OF THE PAPERS**


In light of the age diversity in today’s organizations, and the aging workforce as a global phenomenon, there is an impending need to understand how psychosocial aspects at work might influence health-related outcomes in different ages. As needs, abilities, values and motives shift between and within individuals (see section 2.1.), different job characteristics might gain or lose centrality at different points in life, hence yielding different health
outcomes. In line with recent suggestions at the interface of occupational health psychology and lifespan approaches (Truxillo et al., 2012), this paper systematically explores the interaction between 7 job characteristics, age, and work-related age covariates. Based on cross-sectional data of 1417 workers in Switzerland, Germany and Austria, moderation analyses revealed 4 two-way and 7 three-way significant interaction terms. Specifically, the results show that (1) high role clarity was related to more work engagement among older workers when compared to their younger counterparts, (2) high quantitative demands was related to burnout and lower work engagement among high-tenured workers, and (3) high colleague support was associated with less burnout among high-tenured workers when compared to their low-tenured colleagues. The three-way interactions revealed that (4) older managers and, to a lesser extent, young managers displayed in average higher work engagement than older employees without management position (hereafter simply “employees”), and there was a main effect for quantitative demands, with all three groups showing less engagement when demands were high. Young employees, in contrast, scored the lowest work engagement irrespective of perceived quantitative demands. (5) Negative social relationships led to a sharp loss in work engagement and an increase in burnout levels. The effect was particularly strong for high-tenured young workers, whereas low-tenured young workers seemed the most resilient. Negative social relations taxed older workers equally, regardless of their tenure. (6) Lack of supervisor support was associated with a loss of work engagement, particularly of high-tenured young workers, whereas older managers were the most resilient. (7) Whereas high job control was related to a rise in work engagement in all groups, but to a lesser extent in young employees, low job control was related to a drop in engagement in all groups, but older managers showed the most resilience. (8) Transparency in organizational change was conductive of work engagement, but the lack of transparency was particularly taxing for high-tenured young workers.
In sum, the results show that it might not be chronological age per se which moderates the relationship between paid work characteristics and health-related outcomes, but its interaction with age-related covarying factors, such as job tenure and position. We found some evidence for the tendency away from knowledge-oriented goals (e.g. older workers with higher engagement when role was clear and unambiguous, thus resource-efficient). Yet the tendency toward emotion-oriented was less clear and obscured through the higher-order interactions. We found two overarching patterns: while older manager were particularly resilient to the lack of certain resources and high demands, younger workers with high job tenure were particularly vulnerable to it.

With these analyses, we tested systematically for the first time the potential differential age effects of different job characteristics on health-related outcomes, as suggested by late theoretical developments (Truxillo et al, 2012). However, the multiple-testing approach used in this study should be considered with caution as some of the results might have been due to chance. While we surely recognize the concern of type I errors (false positives), we desisted from implementing corrections for alpha inflation (e.g. Bonferroni procedure), as they have shown to be very conservative, reducing statistical power and increasing the likelihood of type II errors (false negatives). Hence, in the attempt to generate new knowledge while remaining cautious, our results should simply serve as a compass for future, in-depth research and not as given facts. Thus, replication studies are crucial.

This study sheds light on the relationship between volunteering and work-related health outcomes in a sample of 746 Swiss workers. It suggests a mediation model in which the impact of volunteering on health (i.e. burnout, stress, positive mental health and work engagement) is explained by perceptions of work-life conflict and work-life enrichment. In doing so, we controlled for the effect of job characteristics at the paid work (e.g. quantitative demands, emotional demands, autonomy, job significance) on both WLB constructs and on the different health outcomes. Of the 746 participants, 264 (35%) were volunteers in a non-profit organization or institution. Descriptive statistics showed that the sample had similar characteristics to the patterns found in the larger population: men are more active in formal volunteering than women, volunteers have higher education levels than non-volunteers and – although the difference was small – they are more likely to have children living in the household (c.f. Stadelmann-Steffen et al. 2010; SAKE, 2010). Volunteers and non-volunteers reported similar levels of household chores, letting assume that private demands were similar between both groups. The extent of volunteering was coded considering both the frequency and intensity of voluntary work. Hierarchical regression models showed that, after controlling for job demands and resources, the extent of volunteering correlated negatively with work-life conflict, but no positive correlation was found with work-life enrichment (hinting that both constructs might not be simply opposites). The extent of volunteering was also related to burnout, stress and positive mental health. Mediation analyses further revealed that work-life conflict partially explained the relationship between volunteering and burnout / stress, and, to a lesser extent, positive mental health. In the light of these results, it seems plausible that volunteering might first contribute to a sense of balance in life, which in turn translates into better health outcomes.

A critical, a posteriori remark should be made regarding the analysis in this study. We used linear regression models in this sample and corrected for the right-tailed skewness of volunteering (most people invested zero time in volunteering) with a logarithmic transformation. However, this correction does not take into account the bimodal distribution of the dependent variables between volunteers and non-volunteers. In other words, the fact that most participants reported no involvement in volunteer activities generates truncated or “left-censored” dependent variables. For this type of distribution, Tobit or Poisson-gamma regression models would have been statistically sounder than linear regressions (Brown & Dunn, 2011; Mutchler et al, 2003), thus reducing the likelihood of potentially biased estimates.

This manuscript builds on Paper 2 and explores potential moderating effects in the relationship between volunteering and health outcomes. In this paper, job demands and resources are not simply controlled for but included as an interacting variable in the model. Based on the postulates of Okun et al. (2011), we predicted two possible scenarios: volunteers with resourceful paid jobs (in the manuscript referred to as favorable JD-R ratio; see Jenny et al., under review) might benefit the most from volunteering, as they are better positioned to handle and capitalize such resources (complementary hypothesis) or volunteers with less resourceful paid jobs (i.e. unfavorable JD-R ratio) might benefit the most, as volunteering might help to offset such deficits (compensatory hypothesis; Okun et al. 2011). In addition, based on previous research on volunteers’ motives (MacLellan & Kelloway, 2014; Oostlander et al., 2013), we profiled volunteers into those with self-determined motivation and those with controlled motivation (i.e. external or introjected regulation). The results show different patterns dependent on the outcome variable in consideration. Along the health impairment axis (i.e. burnout and stress levels), findings show a main effect for self-determined volunteers when compared to non-volunteers, while controlled volunteers did not differ from non-volunteers. In addition, the impact of self-determined volunteering was largest when participants reported having less resourceful paid jobs, while the effect of volunteering was not significant when participants reported having resourceful jobs (hinting toward a compensatory effect). The pattern was different along the health enhancement axis (i.e. positive mental health, work engagement): both controlled and, to a slightly greater extent,
self-determined volunteers differed significantly from non-volunteers in terms of work engagement and positive mental health. However, no interaction effect was found as a function of paid job resources, (hinting toward both compensatory and complementary effects). In the conclusion, the authors discuss potential explanations for the unexpected differential effects between the negative and the positive axis. The differential alignment of controlled volunteers, showing burnout and stress levels similar to non-volunteers yet work engagement and positive mental health similar to self-determined volunteers could be accounted by over-commitment. Over-commitment has been associated with stress and exhaustion (Siegrist, 1996). Given that conformity with social pressure (including the work environment) and intents of career advancement are some of the engines behind controlled motives, it seems plausible that such volunteers are engaged with their paid jobs to begin with, thus showing over-commitment through volunteering.


This book chapter provides an overview of the literature on volunteering and health. By doing so, it elaborates on mechanisms that explain the relationship between voluntary work and health and also contextual factors that can influence the relationship. The chapter reviews for the most part longitudinal studies (mostly long-standing American national
surveys), which allow assertions on causality. The studies herein included are not limited to the working population, and address a broader spectrum of health outcomes, ranging from self-rated health and depression to physiological measures and mortality risk. Supported by an array of theoretical accounts, the chapter concludes that volunteering can have a health-stabilizing effect because (1) it allows the individual to fulfill the basic human needs of autonomy, competence and connectedness through self-determined, meaningful actions (2) it broadens one’s social network, contributing to feelings of integration which in turn translate into positive emotions and well-being (3) it can, on the one hand, compensate role losses (as it is the case during retirement) and, on the other hand it can counterbalance the activity levels in other life roles (see Paper 2), (4) it can promote health-conscious behavior, and (5) it is associated with positive mental state, which can contribute to a balance of physiological regulation processes. Moreover, the chapter reviews several contextual factors that can either boost or inhibit the positive effects of volunteering on health. It can be concluded that volunteering is particularly beneficial when (1) people begin to disengage from other life roles, as it is the case with retirement, (2) it is performed without overdoing it, with levels of engagement being tailored to each individual, (3) social, physical or mental resources are scarce, (4) when the choice of volunteering is under volitional control and not driven by external motives. Finally, considering the evidence for reverse causal effects, the chapter concludes that (1) a strong selection process takes place in the voluntary sector, where resourceful individuals (i.e. with strong social, physical, and mental resources) are more likely to take up volunteering, while less resourceful individuals seem to benefit the most from such activities (compensatory effect; see Oman, 2007). In terms of course of action, the chapter suggest a targeted diversification of the voluntary sector through the recruitment process, a thought-through planning of volunteering workload that is custom-made to each individual and the minimization of instrumentality, which could undermine self-determined action. Within the scientific community, the chapter encourages an interdisciplinary approach, and makes explicit calls in the fields of social cognition, intercultural research, public health and occupational sciences.
6. CONCLUSION

6.1. Integrating the results

This thesis tried to bring together two areas of human operation, namely remunerated work and formal voluntary work. In this attempt, the thesis has considered work not only as a means of (material) subsistence, but also as a basic dignifying human activity. Work, either paid or unpaid, can fulfill basic human needs of autonomy, competence and connectedness (Ryan & Deci, 2001). Moreover, it can contribute to one’s sense of coherence by providing individuals with the tools to manage and make sense of their environment through meaningful actions (Antonovsky, 1987). Whether such needs are met will depend on the conditions in which an activity is performed; in other words, it will depend on the psychosocial resources a given field of action provides. Different psychosocial demands and resources will serve these basic human needs differently, depending on the life stage a person is in and the a priori availability of such resources. In Paper 1 of this dissertation, we found that not only age, but also work-related age covariates such as position (i.e. whether one occupies a managerial position or not) and job tenure may influence the relationship between psychosocial factors at work, burnout and work engagement. Although the findings in Paper 1 are mixed, there seem to be hints that with age and/or certain career milestones, individuals might be more driven by emotion-oriented goals and less so by knowledge-oriented goals\(^3\). With age, there is also a shift from extrinsic toward more intrinsic motivation (Kooij, et al. 2011). Hence, that people between 45-60 years of age turn to volunteering at a higher rate seems conceivable from this perspective. This population segment is, for the most part, still well immersed in the labor market, what triggers questions on their balancing act. Paper 2 showed that people who have remunerated jobs and are also engaged in voluntary work, report less work-life conflict than their non-volunteer counterparts. This, in turn, partially accounted for the positive effects on burnout, stress levels and positive mental health. The effects, albeit small, were found above and beyond the variance explained by paid job conditions (i.e. job demands and resources). In

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\(^3\) This is best exemplified in our results by older workers’ boosted work engagement when role clarity is high. Role clarity implies a clear, limited set of functions to perform (Truxillo et al., 2012), in which older workers can put their concrete experience to use rather than experimenting through a vague, diffuse role. Such role ambiguity is innate to initial phases of knowledge acquisition, requiring mostly fluid intelligence (which is plentiful in younger age and useful in novel situations) rather than crystallized intelligence (which is based on experience). The role of social connectedness in our results is less clear, however. A possible explanation could be the fact that the measure used assessed the quality (i.e. negative social relations) rather than the quantity of social contact. This should be taken into account in future studies in order to better bridge the gaps between paid work and voluntary work in terms of connectedness.
Paper 3, we further considered such job demands and resources as moderators in conjunction with volunteers’ motives. Results showed that while volunteers reported in general more work engagement and positive mental health than non-volunteers, self-determined volunteers profited the most from their participation, showing the greatest resilience to stress and burnout when paid work conditions were less favorable. Finally, in Paper 4, we reviewed the literature on volunteering and health, elaborating on a broad range of mechanisms and contextual factors that explain and influence the relationship, with a strong emphasis on longitudinal studies that would allow us to shed light on the causal relationships we were not able to assess with our data. The results show that a bidirectional relationship is at play. Next, the strengths and limitations of the PhD thesis will be discussed, concluding with practical implications and paths for future research.

6.2. **Strengths of the PhD thesis**

There are several strengths of this PhD thesis worth highlighting. First, it has blazed the trail for a new expanded view on work in occupational health research, seeing the individual not only as an active member of a market, but also as an active member of the community. Up until now, most research has observed paid work and voluntary work independently (for exceptions, see Mojza & Sonnentag, 2010; Rodell, 2013), with a clear and not surprising emphasis on paid work. However, given the ubiquity of volunteering within the working population (see Stadelmann-Steffen et al., 2010), the study of their interaction is much warranted and desirable. This thesis has partly tested this synergy empirically, but it has also suggested new paths for future research, which should consider this interaction of domains from a lifespan approach.

Second, all three empirical studies underwent systematic and strict analysis standards, controlling for potential strenuous variables and –in the case of the two papers on volunteering- controlling for the effects of paid work demands and resources. In addition, the scales used in the studies were state-of-the-art instruments, which have been applied and tested in different countries and different occupational contexts. Some of the scales have been used not only in research, but also in widespread practical assessments (e.g. HSE; Cousins et al., 2004). Most of the scales had already been used in an extensive survey of eight medium and large companies in Switzerland (Jenny et al., 2011) or validated in the Swiss context (e.g. VFI, Oostlander et al., 2013).
Third, this thesis relied on data from two samples of workers in Switzerland, Austria and Germany. The samples exhibited striking parallelisms to the distribution of demographic variables in the larger population (Ramos et al., 2015; Vogt, 2014). In the particular case of the SNF project (Switzerland only), similarities with the population became also apparent when comparing volunteers and non-volunteers, where the same patterns of large-scale surveys were found in terms of gender, education level, income, workload at paid work and frequency of volunteering (see Stadelmann-Steffen et al., 2010).

Finally, the empirical studies in this thesis considered both negative (i.e. stress symptoms and burnout) and positive (i.e. positive mental health, work engagement) health-related outcomes. Studies on volunteering so far have focused on either its buffering effect on ill-health or its boosting potential on well-being, without considering both in tandem. This double assessment and the differential results that were found could spark compelling research questions, such as the temporal aspect of the effects (e.g. short-term vs. long-term).

6.3. Limitations of the PhD thesis

There are also certain limitations to the scope of this dissertation. First, the three empirical studies in this thesis are based on cross-sectional, self-reported data. The cross-sectional nature does not allow inferences on causality. It could well be the case that healthy people are more likely to volunteer in the first place. In fact, the literature review of longitudinal studies in Paper 4 points in this direction. This limitation is particularly problematic in mediation analyses (Paper 2) as the chain of events cannot be disentangled. We did provide empirical rationale based on experimental studies on helping behavior (Mogilner et al., 2012; see Paper 2 and Paper 4), which speaks for the plausibility of the suggested path. However, longitudinal studies that consider both volunteering and paid work could further substantiate the causal logic between both work domains, WLB and health. On the other hand, the self-reported nature of the data might raise concerns of common-method bias (Podsakoff, MacKenzie, Lee & Podsakoff, 2003). While we conducted post-hoc analyses, which show that common-method bias was not a pervasive problem in our data, it cannot be fully ruled out from the explained variance. Many of the variables in these studies could only be measured through self-report (e.g. WLB perceptions, job demands and
resources, motives to volunteer), yet more objective measures of health should be the next step in further validating these results.

Second, while the results were statistically significant, the effect sizes were in general quite small. This is not uncommon in moderation analyses of psychological phenomena (and social research in general), where the variance accounted by interactions very rarely exceeds 3 percent (Fairchild, 2008). However, we have also found small main effects for volunteering after controlling for paid work demands and resources. Some methodological improvements (e.g. diary studies on volunteering and health measures) could eventually yield stronger evidence for the effects of volunteering.

Third, the sampling and data gathering method in this thesis (i.e. panel online survey) should be observed critically. While the patterns within the samples were similar to the larger working population, there might be between differences that limit the generalizability of the results. Panelists in online surveys might differ from the larger population in several aspects (most notably on socio-economic variables). In addition, people who choose to participate in a study on “work and private life” might have other motivations and profile from those who decided not to (of whom we have no information to begin with). In sum, self-selection can be a source of bias in online research, and in social sciences in general. Some researchers have suggested ways in which this problem can be measured and its impact assessed when conducting online surveys, such as the multiple site entry technique (see Reips, 2000). However, in order to strive for a more representative sample in the first place, researchers should pursue cluster sampling with smaller populations in sight. The accumulation of such evidence would provide a better grasp of the generalizability of these results to the larger working population.

Finally, the explorative nature of some of our results, in which multiple tests were conducted (see Summary Paper 1) should be replicated and studied in depth.

6.4. **Practical implications and paths for future research**

Bearing in mind its limitations, some practical implications can be derived from this thesis, which could have an impact on the individual level, organizational level (both private
and non-profit sectors) and policy-making. In addition, insights from this dissertation could open new avenues of research.

- **Age and age-covarying factors should be considered in work design.** In the realm of paid work, research has started to propose ways in which jobs could be optimized so that they might best fit the needs, capacities and motivation of an age diverse workforce (Truxillo et al., 2012). The systematic analysis of seven job characteristics revealed that it might not be age per se what determines how work should be designed in order to reduce burnout and boost work engagement, but its interaction with other age-covarying factors in the realm of work and private life. In that sense, chronological age might be simply a marker for underlying factors such as health, motivation, life stages and cognitive change, among others (Truxillo & Fraccaroli, 2013). This thesis considered two work-related covariates of age: job tenure and job position, showing differential effects on health outcomes. Future research should also consider personal age-related factors such as (family) life stages (Erickson, Martinengo & Hill, 2010) and psychological factors such as future time perspective (Zacher & Frese, 2009). In terms of the shift from knowledge-oriented toward emotion-oriented goals as they relate to work design, future studies should also take into account potential age-generation confounding (Twenge, 2010). A better understanding of such shifts would yield insights into the high-rate overlap of paid work and volunteering in midlife.

- **Some suggestions for the study of work from a lifespan perspective.** Studies trying to address the age issue are soon enough confronted with the limitation that they can only compare people in different age groups. Any attempt to generate longitudinal evidence within the timeframe of a research group project will most likely yield little variability. It is thus desirable to explore large, national and cross-national data banks collected by organizations such as the National Institute of Occupational Safety and Health (USA) or the European Agency for Safety and Health at Work that allow to observe the variability of work-related psychosocial resources of a single person over the life course, thus assessing true changes across the lifespan.

- **Working more does not necessarily translate into more work-life conflict.** Put differently, WLB does not necessarily have to mean more spare time. This notion shatters much of the lay understanding of strain and multiple life roles. However, experimental
studies (Mogilner et al., 2012) and Paper 2 in this thesis make this counterintuitive idea feasible. It seems that it is not the mere availability of free time what determines how much conflict or time-based stress we experience but also how this free time is used. The role of self-determined behavior and basic need satisfaction seem critical in this context, as such activities may have a much lighter weight on our overall strain experience. As suggested by this thesis, such self-determined behaviors can in fact be additional work activities such as volunteering.

- **The private sector as advocate of voluntary engagement in the community.** In the light of these findings, companies should design work in ways that allow employees to accommodate voluntary activities, and also exposing them to the broad spectrum of fields of action. In fact, involvement of the private sector in the community through Corporate Volunteering has been on the rise in the last decade (see Wehner & Gentile, 2012). Even though a selection bias can take place when targeting employees of (mostly) high-profile companies (see Paper 4), corporate volunteering represents a convenient channel for workers to take up activities that might promote balance and well-being.

- **Extrinsic incentives in recruitment strategies should not thwart intrinsic motivation.** Previous research and, in part, empirical evidence from this thesis show that extrinsic motivation may hamper the positive effects related to volunteering. It is thus crucial that the recruitment process minimize the exposure to such incentives (e.g. volunteering to improve one’s resumé or career chances) and pressures (e.g. expectations –real or perceived- of the social sphere, what could also eventually be a problem in the aforementioned case of corporate volunteering). In this context, it is important to highlight that it is not a question of altruism what is at stake. The selfless-selfish dichotomy is often discussed in the context of volunteers’ motivation. However, this perspective has so far yielded mix results in terms of health outcomes (see Paper 3). In that sense, a recruitment strategy does not necessarily have to stress selflessness. In fact, there is little room for selflessness in a self-determined act. Along with the benefits it brings to society as a whole, recruitment strategies can (and should) stress the benefits of volunteering for the self, but addressing those gains that could appeal personal interests and needs of participants or that could be internalized in the short-medium term as prescribed by SDT (see Gagne & Deci, 2005). Such traits involve learning new skills and knowledge, establishing new social relationships, among others.
- **Promoting volunteering among groups with hindered access and/or less exposure to such activities.** As suggested by the literature review (Paper 4) and indirectly by our empirical findings of differential effects of paid job characteristics on stress and burnout (Paper 3), people with less exposure to psychosocial resources (i.e. experiences of autonomy, social connectedness and support, sense of mastery) seem to benefit the most from volunteering, implying that voluntary role plays a compensatory rather than a merely complementary role (c.f. Okun et al., 2011). However, as longitudinal studies and official statistics show (Bundesamt für Statistik, 2013; Stadelmann-Steffen et al., 2010), such groups are less likely to volunteer. Just as it has been proven in the case of older volunteers, other groups such as immigrants or people affected by unemployment might benefit from a voluntary activity. In fact, since the final draft of the book chapter (Paper 4), new empirical evidence has emerged from a 2-year follow-up study describing precisely the positive effects of volunteering on physical health and health-related behaviors during unemployment (Grieps et al., 2014). Thus, efforts should be made by NGOs and local governmental entities to recruit these groups and to build integration programs that can foster voluntary activities in these underrepresented population segments, and in so doing, diversifying the volunteer landscape.

- **Some suggestions for the study of the interaction between paid work and other life domains.** As the workforce changes in many aspects and gender roles continue dissipating, it becomes crucial to have a better understanding of the interaction between different life domains and work. This thesis dealt with paid work and volunteering. Further research should consider additional roles and work domains such as housework. In such an endeavor, there is still a significant need of qualitative research that might help to grasp the complexity of today’s workforce and unearth important factors and processes that have evolved out of recent changes. Once a clearer picture of the starting point is achieved, further quantitative research can ensue. The quantitative approach should be planned also in consideration of the outcome variables (See next point).

- **Suggestions on the choice of outcome variables.** Future research should consider a broader range of health-related outcomes than the ones employed in this thesis. Given our occupational health focus, we considered mostly work-related health outcomes. In that sense, the disproportionate account of variance between paid work and volunteering is not
surprising, as paid work is the most ubiquitous domain of the two and the prime
determinant of work-related health outcomes. It should be brought to the attention that,
even though still very small, volunteering accounted slightly more for the variance of the
more general outcome “positive mental health” (i.e. psychological, emotional and social
well-being; see Paper 2) suggesting that broader outcomes might be more appropriate
when studying different life domains in interaction. There should also be a clear definition
of the time dimension when considering outcomes, so that the quantitative approach can
also be determined accordingly. For example, the positive mental health measure used in
this thesis might be more stable over time (in line with the notion of eudaimonic well-
being; see Section 2.4), whereas stress and stress-related symptoms might fluctuate more
and, thus, mostly apt for diary studies. This could yield insights on the interaction of
different roles on a daily basis, shedding light on processes such as daily recovery from
work (see Sonnentag & Geurts, 2009). To the best of my knowledge, there has been only
one research program using diary studies at the interface of paid work and volunteering
(e.g. Mojza & Sonnentag, 2010), yet with a stronger focus on paid work performance as
outcome variables. Future research should concentrate on day-to-day health parameters.
Finally, the assessment of objective measures of health (e.g. physical measures, health
records) should be embraced in cross-domain research.

- **Considering new forms of Volunteering.** Not only conditions at the private sector are
changing. Also the volunteer sector is evolving, taking new forms as a result of a
globalized community. Concepts such as event volunteering, voluntourism and online-
volunteering are a reflection of this changing environment (see Neufeind, Güntert &
Wehner, 2015). Within this context, it would be interested to investigate the implications
of these new forms of volunteering for needs satisfaction, well-being and, ultimately,
health. For example, it seems compelling to understand how the differences of immersion
in voluntary work might have an impact on well-being. Event volunteering, for instance,
tends to be a more sporadic, one-shot type of engagement. Voluntourism, on the other
hand, can immerse participants in a long-lasting, 24/7 experience. Finally, online-
volunteering may foster feelings of autonomy and competence, yet at the cost of face-to-
face social interactions. In sum, future research should examine carefully the
reverberations of these types of volunteering on the satisfaction of basic needs and overall
well-being.
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8. SCIENTIFIC PAPERS

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Paper 1

Age-Related Differential Effects of Psychosocial Determinants of Health at Work

Romualdo Ramos*, Gregor Jenny & Georg Bauer

Epidemiology, Biostatistics & Prevention Institute, University of Zurich

*Corresponding author: Romualdo Ramos
Division Public and Organizational Health, University of Zürich
Winterthurerstrasse 30, CH-8006
Zürich, Switzerland
Email: rramos@ethz.ch
phone: +41 44 634 6386

Keywords: age, psychosocial factors at work, job demands, job resources, burnout, work engagement, lifespan, age covariates

Target journal: Occupational Medicine
Age-Related Differential Effects of Psychosocial Determinants of Health at Work

Abstract

Background: In the light of an aging and age-diverse workforce, it becomes imperative to understand how psychosocial aspects at work might influence health throughout working life. Lately, there has been an implicit call for the differentiation of job characteristics rather than their reduction to two factors, i.e. job demand and job resources. As needs, abilities and motivation fluctuate with age, different job characteristics might yield differential benefits. In addition, markers beyond chronological age should also be considered.

Aims: To systematically explore the interactions between different job characteristics, age and age covariates (i.e. job tenure and position type) and their relationship with work-related health outcomes.

Methods: Online survey through a panel data service of workers in Switzerland, Austria and Germany (N=1,417). We assessed 7 areas of psychosocial risks at work, burnout, work engagement and demographics. Seventy regression analyses with interaction terms were conducted.

Results: While main effects for job characteristics were all in the expected direction, 15 interaction terms yielded slopes that were in part contingent to age and, most notably, its covariates. Though small, moderation effects were primarily driven by young workers with high job tenure and non-managerial positions respectively. Similarly, older workers with managerial position showed particular resilience to the lack of certain job resources when compared to the rest of the sample.

Conclusions: While age itself barely played a moderating role, the three-way interactions with age covariates showed some differential patterns. Age covariates should be considered in order to develop age-sensitive occupational health models.

Keywords: age, psychosocial factors at work, job demands, job resources, burnout, work engagement, lifespan, age covariates

Word count: 3,260
Introduction

The job market is changing, and so is its demographic tapestry. People are living and working longer, while the number of newcomers in the workforce stagnates. The aging population poses several challenges that call for measures with an interdisciplinary scope. In the fields of occupational health and work psychology, age has turned from a mere statistical control variable into a central focus of study [1]. Whereas some scholars have primarily concentrated on the pre-retirement cohort (for a review see Wang & Schultz [2]), others have adopted a lifespan approach, considering workers of all ages [3].

It is well established that psychosocial aspects at work are crucial determinants of health [4–6]. The Job Demands-Resources model (JD-R [7]) has dominated the field in the last years, particularly due to its broader assessment of predictors and outcomes when compared to previous models. The authors propose two parallel processes: the energetic process, in which job demands deplete employees’ resources, eventually leading to burnout and health impairment (i.e. the traditional pathogenic view), and the motivational process, in which job resources foster work engagement and well-being [8], in line with salutogenic approaches [9] and positive psychology [10].

Scholars have investigated the incidence of work-related health outcomes in different age groups, finding inconsistent results. A meta-analysis yielded no conclusive picture on the relationship between age and burnout [11], whereas a large study with data from 10 countries has shown a small yet statistically significant positive association between age and work engagement [12]. In recent years, researchers have further delved into the moderating effects of age in the relationship between job characteristics and health outcomes. In sum, multigroup analyses show that the JD-R model remains invariant across age groups [13].

While the contributions of the JD-R model are undisputable, we argue that the dualism between job demands and job resources (often conceived as latent variables representing an
amalgamation of job characteristics) may not be adequate when it comes to queries on age. It tacitly assumes that all job demands are equally wearing and all job resources are equally rewarding across a person’s working life, thus ignoring age-related shifts in physical and cognitive abilities, motivation and decision-making processes. Lifespan development theories provide an adequate framework in this regard. The SOC-Theory [14], for instance, posits that people become increasingly selective with age on where they allocate their (declining) resources, attempting to optimize their use in order to achieve desired outcomes. We also develop compensation strategies to cope with the decay of certain resources. In a similar vein, the Socioemotional and Selectivity Theory (SES) [15] suggests that, with the passage of time, people seek to maximize positive emotional and social experiences and minimize their social and emotional risks. Some scholars have proved the need for differentiation among different job demands and job resources in age-related questions. Zaniboni et al [16] showed that whereas task variety led to less burnout and lower turnover intentions for younger workers, skill variety led to lower turnover intentions for older workers. The authors conclude that task variety might be seen as a way of gaining experience for younger workers, whereas skill variety might enable older workers to showcase the experience they have gained throughout their career. Moreover, whereas younger workers are characterized by their fluid intelligence (required when performing novel tasks), older workers excel through their crystallized intelligence (needed when tasks require a certain level of expertise). In an extensive theory-driven review, Truxillo et al. [3] hypothesized how the availability of different job resources might have differential effects on the satisfaction, engagement and performance of younger and older workers. However, one major caveat of their proposition is that it does not consider age-related effect for the lack of such resources. We attempt to address this issue in this study.

Finally, some scholars see chronological age as a mere “umbrella” variable, under which a myriad of covarying factors are subsumed. Such factors can represent subjective
experiences of an individual (i.e. work centrality, future time perspective) or objective work-related variables (e.g. job tenure, type of position) [17–19].

Based on the preliminary findings on task and skill variety [16] and theory-based inferences [3], the current study aims to investigate the differential age effects of an array of job demands and resources on levels of burnout and work engagement. Specifically, we want to observe the interaction between age, job characteristics and objective age covariates – namely job tenure and position type – and their relationship with work-related health outcomes.

**Methods**

We conducted an online survey through a panel data service provider with panelists in several European countries. Workers in Germany, Austria and Switzerland (N=1,417) completed our survey. Inclusion criteria were a workload of at least 30 hours a week and being employed with or without a management position (i.e. trainees, self-employed and top managers were excluded). Participants represented a broad range of occupations and industries.

We assessed psychosocial factors in the workplace with the German version of the HSE Management Standards Tool [4]. This well-established battery of 35 items comprises six key dimensions of work design that are crucial for health-related outcomes [20]: quantitative demands (e.g. “I have unrealistic time pressures”), job control (e.g. “I have a choice in deciding what I do at work”), support (“I get the help and support I need from colleagues”), role clarity (e.g. “I am clear what my duties and responsibilities are”), negative social relations (hereafter NSR; e.g. “There is friction or anger between colleagues”) and transparency in times of change (hereafter change; e.g. “I have sufficient opportunities to question managers about change at work”). Responses were provided in a 5-point Likert scale from 1 (never) to 5 (always). We proceeded with the analyses using a 7-factor structure,
differentiating between colleague and managerial support, since confirmatory factor analyses (not shown here) yielded a better fit than the 6-factor structure.

We measured burnout with a 4-item scale from the Copenhagen Psychosocial Questionnaire (COPSOQ II) [21]. This scale gauges the frequency of physical and emotional exhaustion (e.g. “How often have you felt worn out”? using the last four weeks as time anchor. Participants answered on a 5-point Likert scale from “never/almost never” to “always”.

Work engagement was measured using the Utrecht Work Engagement Scale [12]. The subdimensions vigor, dedication and absorption are captured with 9 items on a 7-point Likert scale from “never” to “always”. (e.g. “I am enthusiastic about my job”; “I feel happy when I am working intensely”).

Finally, we assessed participants’ age, gender, job tenure and position type (i.e. whether they held a management position or not). Hereafter we use the word workers in general terms (regardless of position), and the terms employees and managers when distinction is necessary.

We first ran correlation analyses for all study variables. We then conducted two stepwise hierarchical regression analyses in order to assess the main effects of job characteristics on burnout and engagement. Demographic and work-related variables were included in the first step of the regression, job demands and resources in the second and third steps accordingly. Finally, we ran 70 (2x7x5) moderation analyses using the Process macro for SPSS [22]. We regressed both burnout and work engagement (2) on all seven (7) key areas with five (5) different interactions terms, which are listed on Table 3. We plotted graphs for significant interactions and reported regions of significance in the text (when needed), which were calculated following Johnson-Neyman’s technique [23]. For ease of interpretation and comparison between the two outcome variables, all scores have been standardized.
Results

Participants were between 20 and 65 years and the mean age was 42 (SD=11). From the 1,417 respondents, 61% were men and 29% held a management position. The average job tenure was 7.83 years, although the distribution was positively skewed, with the longest tenure amounting to 40 years (this was considered in subsequent analyses, employing natural logarithms [24]).

Correlation analyses (Table 1) yielded expected patterns between job demands, job resources and outcome measures. In addition, men were more likely to hold a management position, and women reported higher levels of burnout. However, we do not elaborate on gender any further, as exploratory analyses showed no interaction effects. As expected, position type and tenure correlated positively with age; however, they did not correlate with each other.

---------TABLE 1 ABOUT HERE---------

Main effects (Table 2) show that, after controlling for demographics, job resources (step 2) accounted for 12% of the variance in burnout levels, while the main predictor (i.e. job demands; step 3), accounted for 10%. Although no interaction effects were calculated at this point, the fact that demands and resources explained almost equal percentages of variance is well in line with findings on the buffering potential of job resources [25]. As far as the motivational axis is concerned, job resources accounted for 18% of the variance in work engagement, after controlling for demographics (4%) and demands (11%).

---------TABLE 2 ABOUT HERE---------

Pivotal to our argument on the differential age effects are the results from the moderation analyses, which are shown on Table 3. These yield some modest yet statistically significant results (bold font), which are also depicted in Figures 1 and 2. We omitted the two-way interaction plots for NSR and the one for quantitative demands and age on engagement.
as they are later captured in three-way interactions. In Figure 1, we observe that older and high tenure workers (both represented through dashed lines) display steeper slopes than the young and low-tenured respectively, indicative of stronger effects. Moreover, whereas the interactions between job characteristics and age display a funnel-like shape, the inflection point for the interactions with tenure yielded opposite patterns for workers scoring below and above the mean on the respective job characteristic. Specifically, we found that older workers reported significantly higher levels of work engagement than younger workers when role clarity was high (Fig. 1a; \( z > -0.19; p < .05 \)). High tenure workers experienced more burnout than low tenure workers when reporting high quantitative demands (Fig. 1b; \( z > 1.33; p < .05 \)). Conversely, they experienced less burnout than low tenure workers when quantitative demands were low (\( z < -1.81; p < .05 \)). Although the interaction for colleague support (Fig. 1c) was significant, and a symmetrical pattern was observable as the scores moved away from the mean, no statistical significance transition point was found. Finally, high tenure workers reported lower levels of work engagement when quantitative demands were high (Fig. 1d; \( z > 1.11; p < .05 \)).

---------TABLE 3 ABOUT HERE---------

Three-way interactions with work-related age covariates cast further light on the results. Figures 2a and 2b reveal that the levels of burnout and engagement for older workers were contingent to NSR, but not their tenure (as illustrated by the perfectly overlapping lines for older workers with low and high tenure respectively). In addition, they report significant less burnout than low tenure young workers (\( z < -0.09; p < .05 \)) as NSR decreases. Finally, high tenure young workers reported significant higher levels of burnout than older (\( z > -0.47; p < .05 \)) and low tenure young workers (\( z > 0.17; p < .05 \)). The last two groups did not differ in burnout levels when NSR was high. The pattern is very similar for work engagement, where older adults scored the highest when NSR was low, and high tenure young workers reported the
lowest work engagement when NSR was high. In both diagrams, low tenure young workers showed the flattest slope, meaning that levels of burnout and engagement did not vary as strongly as for the other groups. The pattern for high tenure young workers applied also to managerial support (2c) and change (2d): Whereas participants did not differ significantly when both resources were available, high tenure young workers showed significantly less engagement when managerial support and change were missing.

---------FIGURE 1 ABOUT HERE--------

The 3-way interactions between job characteristics, age and position revealed that, in terms of quantitative demands (Fig. 2e), all groups displayed similar decreasing slopes in engagement as demands increased. Young employees were the exception: their levels of engagement was invariant to the demands, scoring significantly less engagement than older employees ($z < -0.03; p<.05$) young managers ($z < 1.14; p<.05$) and older managers ($z < 1.89; p<.05$) when quantitative demands were low. In terms of job control (Fig. 2f), we observed reversed interactions between young workers and old workers respectively. On the one hand, having job control was beneficial for all older workers; however, the lack thereof was particularly disengaging for older employees (when compared to managers; $z < .02; p<.05$). On the other hand, younger workers were more disengaged when they lacked job control, yet the availability of the latter was particularly beneficial for managers (when compared to employees; $z > .30; p<.05$). Finally, lack of managerial support (Fig. 2g) was predictive of lower engagement for all groups except for older managers, who were the least affected. On the flip side, high managerial support was predictive of high engagement, although the effect was not that strong for young employees.

---------FIGURE 2 ABOUT HERE--------
Discussion

As abilities, needs and motivation wax and wane across the lifespan \([14,15]\), the health-related effect of certain job demands and resources may also fluctuate as a function of such age-related changes. Moreover, covarying factors beyond chronological age could also play a role \([17]\). In this study, we conducted an exploratory systematic analysis of interactions between psychosocial factors at work, age and work-related age covariates. Results show that age itself barely had a moderating effect on the relationship between job characteristics and work-related health outcomes, but its interplay with age covariates, such as job tenure and position type, might have more explanatory potential. Next, we discuss the results for each psychosocial factor and, in so doing, we suggest paths for future research.

Quantitative demands: High tenure workers (regardless of age) displayed a steeper drop in engagement \((1d)\) and rise in burnout \((1b)\) than low tenure workers when quantitative demands were high. This finding makes sense within the framework of psychological contract theory, as high quantitative demands can be seen as a contract violation and employees with longer tenure are more likely to experience contract breach \([26]\). Low tenure \((1d)\) workers, as well as young employees \((2e)\) display levels of work engagement irrespective of quantitative demands, as shown by the flat lines. In this constellation, the probability of curvilinear effects should not be discounted: On the one hand, young and fresh new workers are particularly willing to learn and develop themselves; hence, having low demands might be seen as unchallenging \([27]\). On the other hand, very high demands in an incipient career might not be manageable. Curvilinear effects for age and tenure should be considered in future studies (see also \([28]\)).

Negative social relations: NSR is equally straining \((2a)\) and disengaging \((2b)\) for all older workers. This is in line with SES theory \([15]\) given the emphasis on positive emotional relationships in advanced age. However, we also found an unexpected interaction with high
tenure younger workers: their levels of burnout and engagement were particularly poor when NSR was high, setting themselves apart from the other groups. Findings on decision-making processes offer a potential path for future research: it is known that older adults are more likely than younger adults to disinvest in situations with adverse outcomes, hence avoiding the sunk cost bias [29,30]. In the light of these findings, it would be important to understand the motivation of some young workers—a generation otherwise known for its higher turnover rates [31]—to remain in an organization where tense job climate prevails. While there might exist larger macro-economic determinants (e.g. economic situation, local unemployment), the possibility that some younger workers with intentions of career advancement endure NSR at the expense of exhaustion and disengagement should not be discounted.

*Job control:* Truxillo and colleagues posit that the experience and crystallized intelligence of older adults should make them value job control more than younger workers, who are still in formation and may need less autonomy [3]. While this partially holds true in our results (2f), it is not detached from the position a worker holds: young managers score similar to older workers. Moreover, while older managers seem to be the most resilient to low job control, young employees do not reap an equivalent strong benefit from high control when compared to other groups, in line with Truxillo’s hypothesis.

*Support:* As discussed by Truxillo, it is difficult to make an argument for differential effects of support, particularly when no distinction is made between receiving and giving (the latter could eventually boost the generative need that begins with middle age [3]). We found indeed strong main effects for receiving colleague (1c) and managerial (2c, 2g) support. However, lack of support was particularly disengaging for young, high tenure workers (in line with the sunk cost argument; 2c), while older managers were particularly resilient to it (similar to the pattern in job control, 2g). In sum, future studies should strive to unravel the mechanisms that explain the resilience observed in older managers.
Role clarity: We found a two-way interaction between age and role clarity on work engagement, with higher levels of clarity being particularly beneficial for older workers (1a). Role clarity - like specialization [3] - entails a delimitation of the functions performed. While clarity might be important across the lifespan, it may not have that strong of an impact in younger adults, since a quota of ambiguity may be seen as an inevitable and necessary trait in the process of gaining new knowledge and experience.

Change: Information regarding changes in the organization is related to higher levels of work engagement for all workers; however, the lack thereof is particularly disengaging for high tenure young workers (2d), in line with the sunk cost hypothesis.

Several limitations of this study should be mentioned. First, it relies on self-reported cross-sectional data, which does not allow to establish causality. Moreover, common-method variance cannot be fully ruled out - although moderated relationships have shown to be less vulnerable to this bias [32]. Studies with more objective measures of health, time-lag and longitudinal designs would substantially strengthen our inferences. Second, the moderating effects are indeed very small, accounting for up to 1% of the variance. However, this is very common when investigating psychological phenomena, where the variance explained by interactions very rarely exceeds 3% [33]. Third, although the call for differentiation is legitimate, the isolated observation of psychosocial aspects in this study should only serve as an initial step toward a better understanding of how different demands and resources interact across the working lifespan. Potential buffering or boosting effects for specific demands and resources (e.g. quantitative demands X support) should be further explored as they relate to age and its covariates. Fourth, although the use of the HSE management standards tool has its advantages, one of them being its widespread use by practitioners, future studies should try to cover a broader range of psychosocial characteristics that might be most relevant to the
lifespan approach (e.g. job complexity, job significance). Finally, this study considered objective covariates of chronological age. Future research should also investigate the interactive effects of psychological covariates such as work centrality and future time perspective [17,18,19].

Bearing in mind its limitations, this study brought into light the need for differentiation when discussing age in stress models, but most importantly, the role that other covarying factors might have in the otherwise quite invariant relationship between job characteristics and work-related health outcomes across different age groups. It remains a challenge for future studies to elucidate the interactive constellation of psychosocial determinants of health across the lifespan.

Key points

- Age-sensitive occupational health models should strive the differentiation of job characteristics rather than their simplification in two global constructs (i.e. demands and resources) in order to consider age-related shifts in motivation and abilities.
- The relationship between job characteristics and work-related health outcomes (i.e. burnout and work engagement) seems to be more influenced by the interaction between chronological age and its work-related covariates (i.e. job tenure and position type) than by chronological age on its own.
- Future research should consider not only objective (i.e. job tenure and position type), but also psychological age covariates (e.g. work centrality and future time perspective) in order to better assess their role in reducing or augmenting work-related health outcomes.

References


Table 1. Correlation table for study variables

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**p < .001; *p < .05. Cronbach's alphas for scales are shown in parenthesis along the diagonal.
Table 2. Stepwise hierarchical regression analysis for main effects

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<tr>
<td><strong>Total R²</strong></td>
<td>.25</td>
<td>.33</td>
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Note: Standardized weights are shown. Steps 2 and 3 were interchanged based on the outcome variable (i.e. job demands were entered second and job resources third when work engagement was the outcome variable, and job resources were entered second and job demands third when burnout was the outcome variable). *p<.05; **p<.01. N=1417.
Table 3. *Standardized coefficients for the relationship of two-way and three-way interactions with burnout and work engagement.*

<table>
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<tr>
<td>Change</td>
<td>.02</td>
<td>-.06*</td>
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</table>
Figure 1. Plot graphs of significant two-way interactions

Job Characteristics $\times$ Age

- younger workers
- older workers

(a)

Job Characteristics $\times$ Job Tenure

- low job tenure
- high job tenure

(b)

(c)
Figure 2. Plot graphs for three-way interactions

Job characteristics X Age X Job tenure

a) Burnout
b) Work engagement

Job characteristics X Age X Position
c) Work engagement
d) Work engagement
e) Work engagement
Busy Yet Socially Engaged:
Volunteering, Work-Life Balance and Health in the Working Population

Romualdo Ramos, MSc<sup>1,2*</sup>
Rebecca Brauchli, Dr. sc.<sup>2</sup>
Georg Bauer, PD Dr. med., DrPH<sup>2</sup>
Theo Wehner, Prof. Dr.<sup>1</sup>
Oliver Hämmig, PD, Dr.<sup>2</sup>

1) Department of Management, Technology and Economics, ETH Zurich
2) Epidemiology, Biostatistics and Prevention Institute, University of Zurich

*Corresponding author: Romualdo Ramos
Division Public and Organizational Health
University of Zürich
Winterthurerstrasse 30, CH-8006 Zürich, Switzerland
Email: rramos@ethz.ch, phone: +41 44 634 6386

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Busy Yet Socially Engaged:
Volunteering, Work-Life Balance and Health in the Working Population

Abstract

Objective: To understand the relationship between volunteering and health in the overlooked yet highly engaged working population, adopting a contextualizing balance approach. We hypothesize that volunteering may function as a psychosocial resource, contributing to work-life balance and, ultimately, health.

Methods: 746 Swiss workers participated in an online survey; 35% (N=264) were additionally volunteers in a non-profit organization. We assessed volunteering, work-life balance perceptions, paid job demands and resources and health outcomes.

Results: After controlling for job characteristics, volunteering was associated with less work-life conflict, burnout and stress and better positive mental health. Results further revealed that balance perceptions partly explained the relationship between volunteering and health.

Conclusion: Volunteering, albeit energy and time-consuming, may contribute to a greater sense of balance for people in the workforce which might in turn positively influence health.
Introduction

Voluntary work has been a quintessential element of civil society over the decades, with millions of people worldwide engaged in a broad variety of activities\(^1\). We define voluntary work as the sustained, unpaid work within an organization for the benefit of the environment or individuals other than, or in addition to, close relatives\(^2\). It requires time expenditure, it could theoretically be carried out by other people and could potentially be remunerated\(^3\). This definition sets apart *formal* volunteering (our focus of interest) from *informal* volunteering, which tends to be more spontaneous and lacks the organizational infrastructure. In countries like the US and Switzerland, about a quarter of the population is engaged in some type of formal voluntary activity through an organization\(^4,5\). The positive impact of volunteering at the societal level is widely accepted and virtually undisputed, as it promotes solidarity, social responsibility and a sense of community while disburdening the social welfare. In recent years, however, research has leaned more toward the individual level, concentrating on the experience of volunteers and the benefits they reap from their engagement. Indeed, volunteers often report experiencing positive emotions derived from their engagement\(^6,7\). The voluntary activity provides individuals with continuous social interaction and elicits a sense of fulfillment, self-efficacy and a rewarding feeling of giving something back to society\(^6,8\). An ever-burgeoning literature further shows that such experiences can translate into positive health outcomes. Volunteering has been associated, among others, with better self-rated health\(^7,8,9\), lower depression levels\(^10,11,12\), lower mortality rates\(^13,14,15\), lower frequency of hospitalization\(^16\) and overall life satisfaction\(^7,9\).

Arguably, most research on volunteering and health has primarily focused on senior citizens\(^17\), turning age into the factor that has led the way in most research programs. This becomes apparent in the ubiquity of articles in gerontological journals that address the topic
(for reviews see\textsuperscript{18,19}). One reason for this focus might be that older adults seem to benefit more than their younger counterparts\textsuperscript{9,20}. Given their withdrawal from the workforce, volunteering represents for many elderly adults a meaningful, enriching activity, that boosts their self-esteem and reinvigorates the otherwise cut-down social relationships\textsuperscript{6,21}. Some authors argue that the difference may also lie in the fact that younger adults sometimes feel “obliged” to volunteer (e.g. when related to other responsibilities such as parenting) or that they might be overall more extrinsically motivated (e.g. in order to have a competitive advantage in the job market). Instead, older adults might be more intrinsically driven, wanting to fulfill a purposeful role in their community\textsuperscript{22}. Finally, the larger effects among the elderly could also be explained by the fact that younger adults show less health variability, what might statistically hamper the effects\textsuperscript{17}.

Yet the focus on the retired population has eclipsed the largest segment of the volunteering sector. In fact, 77\% of volunteers in the US are under the age of 65, with the highest rate of engagement among those between 35-44 years of age\textsuperscript{4}. A similar age pattern is found in the Swiss volunteering landscape. Moreover, data from an extensive poll in Switzerland provides insights into the employment conditions of volunteers. Against all odds, people in the workforce are more likely to be volunteers than the unemployed (e.g. laid-off personnel, students, housewives, senior citizens). Data also shows that, whereas women in part-time jobs are more likely to volunteer than women in full-time positions or the unemployed, the volunteering rate for men increases with their level of employment; i.e. full-time male workers are more likely to volunteer\textsuperscript{5}. It follows that the study of volunteering as a mere post-retirement activity and, consequently, in isolation from other life domains might obliterate relevant knowledge about its health implications in the larger population. In order to better understand the effects of volunteering for younger, gainfully employed adults, a more
contextualizing approach is needed, where domains such as paid work, private life and the balance between them are considered.

**A Balance Approach to Volunteering**

As the job market reaches unfathomable levels of acceleration and societal values gravitate more toward deceleration and “time for the self” (particularly in highly industrialized countries\(^{23}\)), the idea of a sound, balanced lifestyle gains relevance in both research and in our daily living. The term “work-life balance” (hereafter WLB) has become lay language and the debate on the topic trickles through all spheres of society. As some authors put it: “People feel overworked, and with not enough time to be a good worker, nor a good parent, partner, child, and citizen”\(^{24}\). The inclusion of the role as a citizen in this context is particularly appropriate and raises the question as to why volunteering has not yet been studied within a WLB framework.

From the occupational health perspective, WLB has been linked to a myriad of health-related outcomes at the physical, mental and social level (for a review see\(^{25,26}\)). Traditionally, WLB has been conceived from a *role strain* perspective\(^{27}\), which posits that participation in multiple roles leads to inter-role conflict due to scarcity of time and energy resources. Hence, WLB has often been operationalized and understood as the absence of work-life conflict (WLC). In recent years, however, scholars have come to acknowledge the potential gains from multiple roles, such that participation in one domain may have a positive impact on the performance in other domains, be it through transfer of knowledge and skills or simply due to a spillover of positive affect. The assumption that a transfer of resources takes place among life domains lies at the core of the *role enhancement hypothesis*\(^{28,29}\), which has led to an understanding of WLB not only in terms of conflict, but also in terms of work-life enrichment (WLE)\(^{30}\).
In the light of the work/non-work interface, volunteering represents a peculiar type of life domain, which cannot be easily circumscribed to either work or leisure. It is an activity characterized by freedom of choice, yet there is also a strong social commitment component, which sets it apart from other leisure activities such as hobbies. Personal interests might be at play, yet the self is not the fulcrum of the voluntary engagement, as it is per definition „work for the benefit of the environment or individuals other than, or in addition to, close relatives”\(^2\). We assume, however, that the positive emotions elicited through volunteering might lead to a greater sense of balance, minimizing the perceived conflict and augmenting the perceived enrichment among domains. Our rationale lies on the premises of Marks’ expansion approach\(^3\). He suggests that having multiple roles does not necessarily deplete our resources, since activity is also necessary to stabilize the production of human energy. In other words, we could speak here of a homeostatic cycle, where the expenditure of resources is simultaneously associated with the creation of new ones. Empirical research seems to substantiate this theorizing as it pertains to voluntary work. Volunteers are able to carry out their daily life activities with no major functional impairment\(^7,10\) and they show better family functioning than non-volunteers\(^32\). Recent experimental evidence helps to further understand the potential stabilizing effect of volunteering. Mogilner, Chance and Norton\(^33\) showed in a series of studies, that people who were asked to help others (e.g. helping at-risk students with their homework, or providing emotional support to the ill) experienced a greater sense of time affluence than those who spent their time doing nothing or doing something for themselves. Although objectively speaking participants in the experimental condition had incurred an expenditure of time resources, they perceived having more time available than those who did not help others. This counterintuitive way of palliating the widespread feeling of “never having time” was explained in a mediation model by the heightened levels of self-efficacy participants experienced when helping others. Self-efficacy is highly correlated with self-
esteem, (less) neuroticism, locus of control and sense of mastery, with authors arguing they all represent a common core construct\textsuperscript{34}. Thus, \textit{objective} time resources were replenished by these psychosocial resources, which in turn positively biased the \textit{subjective} perception of time availability. In a similar fashion, we expect that volunteering might contribute to a greater sense of WLB, so that WLC is mitigated and WLE is amplified by the voluntary engagement.

\textbf{Job Demands and Resources, Work-Life Balance and Health}

Since we are targeting the health condition of volunteers who are also part of the workforce, an assessment of their working conditions becomes crucial. The job demands-resources model\textsuperscript{35} (JD-R) has been one of the leading frameworks in explaining the effects of job characteristics on employees’ health and wellbeing. Using a broader range of job characteristics than previous stress models, the authors outline a dual process in which job demands such as work overload, emotional and cognitive demands lead to strain (\textit{impairment process}), whereas job resources such as social support, autonomy and job significance help to achieve work goals, buffering demands, or stimulating personal growth, learning and development (\textit{motivational process}). The motivational process is also an important contribution of the JD-R model, which steers away from the one-sided focus on burnout and job strain and considers positive health outcomes, as advocated by salutogenic approaches\textsuperscript{47}. Through the mechanisms of burnout and work engagement, the JD-R model has proven its predictive value for a plethora of work and health-related outcomes (for a review see\textsuperscript{36}).

There are only few studies that have attempted to integrate WLB perceptions in the JD-R model. We argue that such perceptions should be paramount in explaining the ensuing health outcomes; i.e. the extent to which job demands and resources are health-impairing or health-enhancing will depend on the extent to which individuals perceive them as conflicting with, or enriching for other life domains. Some studies have indeed shown that job demands and resources predict work-home interference\textsuperscript{37,38}. There is also preliminary evidence that
work-to-life conflict might partially mediate the relationship between job-related psychological demands and emotional exhaustion. It is worth noting, however, that these studies have only considered the conflict, but not the enrichment among domains. In the current study, we also consider the positive enrichment axis.

The interplay between paid work and volunteering has rarely been studied. Research by Mojza and colleagues constitutes the exception. By means of diary studies, the authors showed that the amount of time spent on voluntary work activities in the evening was positively correlated with psychological detachment from work and this in turn was correlated with active listening at work the following day. The extent of volunteering was also negatively correlated with negative affect the following day, which was explained through heightened need satisfaction. In another sample, the authors found that voluntary work the night before buffered the effect of job stressors on affect and active listening the following day. These studies provide a robust picture of the day-to-day effects of volunteering. However, they are limiting in that they do not include control groups of non-volunteers, which might derive psychological detachment through other activities. In addition, they narrowed the scope of outcome variables to psychological detachment, affect and active listening, with the latter being more related to performance rather than well-being. In a recent survey study, it has been shown that volunteering was associated with both volunteer and paid job meaningfulness, and that the extent of meaningful volunteer work was stronger when participants reported less meaningful jobs. Her results further revealed that volunteering was related to job absorption at the paid work, but not with job interference (e.g. “The demands of volunteering interfere with work-related activities”), which in turn was associated with better job performance. This finding is preliminary evidence of a potential positive spillover of volunteering into the work domain.

Present Study
The aim of the present study is to shed light on the potential health-promoting effects of volunteering in the somewhat overlooked yet highly engaged working population. To that end, we assessed and controlled for participants’ paid work conditions (i.e. job demands and resources), which help to understand the weight of volunteering on health above and beyond the dominant work domain. Based on previous evidence, we first hypothesize that the extent of volunteering will be associated with higher levels of well-being and health. Specifically, we expect it to be negatively associated with burnout and stress and positively correlated with positive mental health and work engagement. Second, we hypothesize that volunteering may function as a psychosocial resource, minimizing perceptions of WLC and enhancing perceptions of WLE. Finally, we test a mediation model in which the relationship between volunteering and health-related outcomes is explained by perceptions of WLC and WLE. The proposed model is depicted in Figure 1.

(PLEASE INSERT FIGURE 1 ABOUT HERE)

Figure 1. Hypothesized model. Solid lines represent the hypothesized paths, dotted lines represent the effect of established control variables.

Method

Procedure and participants

We conducted an online survey on “work and leisure” and participants were recruited through a panel data service with over 20,000 panelists in Switzerland. We first screened panelists based on age and workload. Inclusion criteria were being older than 18 years of age and being employed at least 20 hours a week. The language also constituted an inclusion criterion since the survey was only in German (hence, it was only sent to residents in the German part of Switzerland). After this initial screening, a random group of 4,325 panelists were contacted to participate. A total of 774 panelists completed our survey, yielding a response rate of 18%. We carefully observed the data from “speeders” (i.e. participants with
very short duration time) and set a cut-off limit of 400 seconds, under which participants were excluded. Twenty-eight respondees were removed from the data set based on this criterion, leaving a final sample size of 746 participants. From the 746 participants, 35% (N=264) were additionally engaged in some type of formal volunteering. Sport clubs, charitable organizations, and cultural associations were the fields in which volunteers were the most active.

**Measures**

The questionnaire assessed perceptions of WLC and WLE, followed by demands and resources from their paid work and concluded with the report of various health-related outcomes and demographics. Volunteers also provided details about their voluntary work.

**Voluntary work.** We first defined voluntary work (in accordance with our focus on formal volunteering) and then asked participants whether they participated in such activities within a nonprofit organization (yes/no). We then assessed both the frequency and the intensity of the voluntary service. Non-volunteers were automatically assigned a value of zero. We coded frequency by estimating the number of days within a month in which participants are engaged in voluntary activities (0.3 = rarely/2-5 times a year; 2 = 1-3 times a month; 4 = once a week; 10 = several times a week). Intensity was operationalized as the average number of hours worked within a given volunteering day. Finally, we multiplied both frequency and intensity, creating a compound variable. This dual assessment of the extent of volunteering aimed at simplifying the reporting process for participants, avoiding effortful calculations and presumably yielding a more accurate picture. Since non-volunteers (N=482) outweighted volunteers (N=246), we corrected for positive skewness applying logarithmic transformation on the compound variable.

**Work-life conflict and work-life enrichment.** We used the 22-item Survey of Work-home Interaction NijmeGen (SWING) as our WLB measure. The authors use the term
“home” in a broad sense, meaning private life in various social circles (e.g. “How often does it happen that you have to cancel appointments with your partner / family / friends due to work-related commitments?”). Unlike other scales, which have primarily focused on time-based and strain-based conflict, Geurts and colleagues have also contemplated enrichment between work and home (e.g. “How often does it happen that you fulfill your domestic obligations better because of the things you have learned on your job?”). Furthermore, conflict and enrichment are assessed bidirectionally, i.e. from work to home (as in the previous examples) and from home to work (“How often does it happen that you do not feel like working because of problems with your spouse / family / friends?”). All items were rated on a 4-point Likert scale from “never” to “always”.

**Job characteristics.** This question block aimed at depicting the distribution of demands and resources in participants’ paid work. We used sub-dimensions from both the Work Design Questionnaire (WDQ)\(^45\) and the Second Copenhagen Psychosocial Questionnaire (COPSOQ II)\(^46\). Job characteristics were chosen based on their relevance at the interface between paid job and volunteering. Three sub-dimensions assessed job demands: quantitative demands (e.g. “Do you have enough time for your work tasks?”), emotional demands (e.g. “Do you get emotionally involved in your work?”) and cognitive demands (e.g. “Do you have to keep your eyes on lots of things while you work?”). The resource component comprised autonomy (e.g. “The job allows me to make a lot of decisions on my own”), social support (e.g. “I have the opportunity to develop close friendships in my job”) and job significance (e.g. “Do you feel that the work you do is important?”). All items were rated on a 5-point Likert scale with varying labels depending on the scale of origin.

**Health outcomes.** We administered a broad spectrum of health-related measures, capturing both general and work-related health, on physical, mental and social dimensions. In congruence with the salutogenic approach\(^47\), we opted for measures that would reflect not
only ill health (e.g. burnout and stress), but also well-being (e.g. positive mental health and work engagement), known to be important sources of resilience.

**Burnout (COPSOQ II)**\(^{46}\). We chose this parsimonious four-item scale to measure the frequency of episodes of physical and emotional exhaustion (e.g. “How often have you felt worn out?”). Participants answered on a 5-point Likert scale from “never/almost never” to “always”.

**Stress and related symptoms (COPSOQ II)**\(^{46}\). We measured overall stress (e.g. “How often have you had problems relaxing?”) and its related cognitive and somatic symptoms. Examples of the latter are “How often have you had problems concentrating?” and “How often have you had palpitations?”. The scale comprised 12 items rated on a 5-point Likert scale from “never” to “always”.

**Positive mental health (Mental Health Continuum short-form, MHCsf)**\(^{48}\). This 14-item scale captures psychological, emotional and social well-being. Participants are asked to rate on a six-point Likert scale the frequency of positive feelings and emotions within the last month. Such feelings are derived from an overall appraisal of one’s social functioning, emotional stability and life satisfaction. Some examples are “During the past month, how often did you feel satisfied with life?, “(…) that you had something important to contribute to society?”, or “(…) that you had warm and trusting relationships with others?”. Participants answered on a 6-point Likert scale ranging from “never” to “every day”.

**Work Engagement (Utrecht Work Engagement Scale; UWES)**\(^{49}\). Work engagement is “the positive work-related state of fulfillment that is characterized by vigor, dedication and absorption”\(^{49}\) and is believed to be the antipode of burnout. All these three aspects are subsumed in a 9-item scale. Examples are “I am enthusiastic about my job” and “I feel happy when I am working intensely”. Participants rated the frequency of these events on a 7-point Likert scale from “never” to “always”. 

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Data analysis

We first ran a correlation analysis with all study variables. We then conducted six hierarchical regression analyses (one for each of the dependent variables) with four steps. Following conventions, we first included known variables in our model (i.e. demographics, job demands and resources) and our predictor of interest, namely volunteering, was included in the last step of the regression analysis. We favoured hierarchical regressions over structural equation modeling for two reasons: first, we were interested in knowing the association of volunteering with health outcomes above and beyond determinants in the work domain. Second, and as a result of the latter, our model included a large number of parameters, what would have required a much larger sample in order to yield stable estimates. Finally, we tested the suggested mediation between volunteering, WLB perceptions and health outcomes using Preacher and Hayes' Process macro, controlling for age, gender, job demands and resources. We used bootstrapping with 1,000 replicates for the analysis.

Given that our data is entirely based on self-report at a single point in time, concerns that the effects might be driven by common method variance are likely to arise. In order to assess whether this bias was at work, we recurred to statistical procedures that have been widespread used in social research. We first ran an exploratory factor analysis (EFA) with our study variables. Based on Harman’s single-factor test, if common method variance was an issue, most items would load on the first unrotated factor. Instead, our data showed a clear multifactorial structure with most variables loading on single factors. In order to control for method effects statistically, we additionally partialled out a general method factor. We calculated factor scores for each participant by choosing Bartlett’s approach during the EFA process. We took the first unrotated factor score, which is the factor explaining the most common variance, and included it as the first step in our regression models to see if it had any impact on subsequent steps. In sum, we found that the first common factor accounted for
8.9% of the variance in our model. As expected, the effect sizes of some of our variables were reduced; however, the direction of the relationships remained unchanged and they were all still significant (provided they were significant in the uncontrolled model). It is important to highlight that a major caveat of this procedure is its inability to differentiate between variance attributable to common method and variance attributable to the predictors\(^{52}\). It is thus a very conservative estimate, which might obfuscate genuine, true variance. For this reason, we have not included the general factor in our result analyses (the EFA and the regression models with control of the first common factor are available upon request to the first author). These analyses give us the confidence to state that common method variance was not a pervasive problem in our data.

**Results**

**Descriptive statistics and correlation analysis**

Table 1 presents descriptive statistics on relevant demographic variables as well as the frequency and intensity of volunteering. The mean age for the entire sample was 42 and there was no major difference between volunteers and non-volunteers. The gender distribution across the sample was quite balanced, with 48% females. However, we found a slight disproportion in engagement, where men (61%) volunteered more than women (39%). Sixty-seven percent of the sample turned out to be employed full-time (40 hours or more). The workload was comparable for both groups, although volunteers were full-time workers at a slightly higher rate. Percentages also show that volunteers had higher educational levels than non-volunteers. In terms of private demands, almost 70% of the sample had no children living in the household, and the distribution was quite similar between the two groups. Moreover, both groups reported spending almost the same amount of time per week in household chores (the mean was positively skewed, as suggested by the large standard deviation, yet both groups were similar even when frequencies were observed). These two measures ensured that
both groups were comparable with respect to private demands. Finally, the frequency of volunteering was evenly distributed and volunteers spent in average 4.45 hours in a volunteering day. All in all, the sample - and in particular the subsample of volunteers - was quite representative, as it mirrored the distribution in the larger population in regard to age, workload, gender and education levels, which have been reported by extensive national-level surveys in Switzerland\(^5\).

*(PLEASE INSERT TABLE 1 ABOUT HERE)*

Results for the correlation analyses are shown in Table 2. Variables correlated in the expected direction, except for emotional and cognitive demands, which yielded mixed results (we will consider this issue in the discussion). The scales yielded good internal consistency as shown by the reliability tests (Cronbach’s alpha between .69 and .96). Interestingly, the extent of voluntary work correlated significantly with demands but not with resources at the workplace. Finally, voluntary work correlated positively with WHE, positive mental health and work engagement, and negatively with WHC, stress and burnout.

*(PLEASE INSERT TABLE 2 ABOUT HERE)*

**Hierarchical regression analyses**

The results of the hierarchical regression analyses are shown in Table 3. The first step in the model - age and gender - reveals that, as participants’ age increases, they report less conflict (\(\beta = -.20\)), more enrichment (\(\beta = .15\)) and they score better in all health-related outcomes and work engagement (\(\beta s\) between .09 and .18). Women reported slightly higher levels of burnout (\(\beta = .12\)) and stress (\(\beta = .15\)) than men but no differences were found in WLB perceptions. The two subsequent steps, job demands and job resources, explained most of the variance in our model. In accordance with the extensive findings of the JD-R model\(^35\), demands were more strongly associated with stress, burnout and WLC – i.e. factors along the strain (negative) axis - whereas resources correlated more with WLE, positive mental health
and work engagement - i.e. factors along the motivational (positive) axis. Finally, our main predictor, namely the extent of voluntary work, was associated with lower levels of WLC (β=-.10), burnout (β=-.10) and stress (β=-.07) and higher levels of positive mental health (β=.14). No significant effects were found for WLE and paid work engagement.

(PLEASE INSERT TABLE 3 ABOUT HERE)

Mediation analysis

The results of the mediation analysis are displayed in Table 4. Since no relationship was found between volunteering and WLE, we concentrated only on the mediation of WLC. Likewise, we dropped work engagement from our analyses. As expected, WLC correlated positively with burnout (B=1.02) and stress (B=.799) and negatively with positive mental health (B=-.569). R² values show that between 8 and 14 percent of additional variance in health outcomes was explained when WLC was included in the model (R² values of the models without WLC were extracted from Table 3). When comparing the direct paths between volunteering and health outcomes (c paths) with the indirect paths after controlling for WLC (c' paths), data shows a full mediation effect for stress and related symptoms, and partial mediations for burnout and positive mental health. This becomes apparent through the weaker estimate values along the indirect path (c’).

(PLEASE INSERT TABLE 4 ABOUT HERE)

Discussion

This study has attempted to steer clear of the dominant gerontological approach to volunteering and health and has focused on the largest segment of the volunteering sector, namely people in the workforce. We contextualized volunteering by considering the broader network of life domains and assessing the purported impact of volunteering above and beyond working conditions. We also introduced the WLB dimension as a “perceptual proxy” to health outcomes. Based on theorizing on role enhancement28,29, the expansion approach31 and
empirical evidence on the stabilizing effects of volunteering\textsuperscript{41} and helping behavior\textsuperscript{33}, we proposed that volunteering might be associated with a greater sense of life balance, which ultimately translates into better health. This study yields preliminary evidence for these hypotheses.

A hierarchical regression analysis showed that volunteering was associated with lower levels of burnout and stress and higher levels of psychological, emotional and social well-being as measured by the scale of positive mental health\textsuperscript{48}. This is in accordance with evidence from previous studies on stress and well-being in the voluntary sector\textsuperscript{7,9}. We did not find, however, support for a spillover effect onto the work domain, as volunteering did not correlate with paid work engagement. Work engagement is considered the “antipode of burnout”\textsuperscript{49} yet it is more domain-specific than the latter. Whereas burnout can result from the amalgamation of various factors, including those outside the realm of work\textsuperscript{56}, work engagement seems strictly confined to the specific working conditions. This explains why job resources accounted for 35% of the variance in work engagement, yielding the largest R-squared change in our model. All in all, we could not replicate previous findings linking volunteering with job absorption, a subdimension of work engagement\textsuperscript{42}. This might also be accounted for by the different operationalizations of volunteering (we will return to this point in the strengths and limitations part).

Volunteering had also a modest yet statistically significant effect on WLC. The latter decreased as a function of increasing voluntary engagement. Despite the fact that volunteering requires allocation of energy and time resources, people involved in such activities report less conflict among life domains. This finding is in line with previous experimental research on helping behavior and time affluence perceptions\textsuperscript{33}. However, volunteering was not associated with WLE. We have a suggestion as to why this might be the case. Greenhaus and Powell define enrichment as the “extent to which experiences in one role improve performance or the
quality of life in the other role”\textsuperscript{30}. Contrary to WLC, which denotes an energy and time scarcity due to conflicting life domains (“How often does it happen that you do not have the energy to engage in leisure activities with your spouse/family/friends because of your job?”), WLE might tap more into specific qualitative spillovers from one domain onto the other (“How often does it happen that you fulfill your domestic obligations better because of the things you have learned on your job?”). Hence, the idea that volunteering could have an impact on the qualitative spillover between two unrelated domains may come across as ambitious. In this particular case, the use of domain-specific scales (e.g. work-volunteering enrichment) might be more appropriate. However, these conceptualization issues draw once again attention on the difficulties of measurement in the work-family and work-life research\textsuperscript{57}, particularly when it comes to the “positive side” and its related terms of spillover, enrichment and facilitation. Previous studies have also consistently found stronger correlations for conflict than for enrichment\textsuperscript{58}, and in more general terms, a heavier weight of negative over positive events in psychological phenomena\textsuperscript{59}.

As one of the main contributions of this study, we found that WLC mediates the relationship between volunteering and health outcomes. Through the experience of balance, herein understood as low conflict among life domains, volunteering was associated with less stress and burnout. The mediating effect was less pronounced (and practically inexistent) for positive mental health, which is yet another evidence of a dual process with two separate axes: a positive, motivational path and a negative, health-impairing axis\textsuperscript{35}.

The role of demographic variables and job demands and resources merits some attention. As expected, these variables explained most of the variance in health outcomes. Following the logic of the JD-R model, demands were stronger predictors of WLC, burnout and stress, whereas resources were more associated with WLE, positive mental health and work engagement. As mentioned before, emotional and cognitive demands showed some
inconsistent patterns, sometimes correlating in the unexpected direction. However, this goes well in line with the call for differentiation between hindering and challenging job demands. Along the demographic variables, age was positively correlated with WLB, health and work engagement. This finding is consistent with previous studies showing weak yet significant positive correlations between work engagement and age and the results of a meta-analysis that found a negative correlation between age and burnout. Finally, there were no differences in WLB between genders, consistent with previous findings, although women did report slightly higher levels of stress and burnout than men.

**Strengths, limitations and future research**

This study is one of the few attempts in the literature to contextualize volunteering and health within a broader life domain framework. We did so by gauging perceptions of WLB as well as paid job demands and resources. There are some strengths and limitations to this study, which should be born in mind for future research.

The first and biggest limitation of this study is its cross-sectional nature, which does not allow us to establish causality. It could well be argued that people who volunteer are healthier in the first place (argument which has found some evidence in previous studies), or that a sense of work-life balance allows them to engage more in volunteering. This cannot be proven with our current data. This is particularly problematic in the case of mediation hypotheses, since the chronological order of effects cannot be elucidated. However, as Hayes argues, cross-sectional data should not be a deterrent from mediation analyses, in our attempt to “understand what our data might be telling us about the process we are studying” (p.17). Causal inferences are not the results of the statistical procedures we employ but a creation of our mind, based on theory and previous observations. We have provided a thorough theoretical and empirical background, which make the causal inference plausible.
Having said that, longitudinal studies would be the next step in this research line, in order to grasp the life-course variation of different life domains (including volunteering) and their impact on WLB, health and well-being.

Second, the results on this study should be taken with caution, since, as our hierarchical regression analyses show, the effect size of volunteering on health is indeed small, accounting for 1-2% of the variance in outcome variables. This could be related to the selection process mentioned above (i.e. that volunteers are healthier to begin with) and, more in general, to the bias of a healthy-worker effect\(^64\). This phenomenon lies on the assumption that people in the workforce are usually healthier than the general population, as the severely ill and chronically disabled eventually withdraw from employment\(^65\). It could also be related to the operationalization of volunteering. Although we optimized and simplified the report of time spent on volunteering, concerns have been raised as to whether time-based measures are able to truly capture the intensity of the voluntary engagement\(^42\). Future research should find a common ground on how to best assess the intensity of voluntary work.

Third, throughout the study we advanced the idea of WLB as a “perceptual proxy” to more “observable” health outcomes. WLB is indeed a subjective, perceptual dimension, which might be appraised differently by two individuals in similar situations. However, the assessment of health in this study was not any less subjective. Although we controlled for, and found no major effect of common method variance, the study of this constellation (i.e. volunteering, WLB and health) would be substantially improved with more objective measures of health. Moreover, although we gauged somatic symptoms of stress, this does not suffice in order to make inferences at the physical level. Future studies should pay greater attention to physical parameters of health, which would imply a giant step within this research field.
Finally, we aspired to contextualize volunteering among other life domains, yet our focus has been primarily occupational. Although we assessed private demands with single items (i.e. number of children in the household, hours per week spent in housework) and found no difference between volunteers and non-volunteers, a much more encompassing assessment of private obligations would be desirable. The home domain has been previously studied from a JD-R perspective. Future studies considering non-work domains such as volunteering should integrate the private sphere in their research program. In more general terms, the study of life balance should be enlarged in a way such that domains are considered in their own right, desisting from the dichotomization of work vs. non-work activities. In this regard, some scholars have coined the term “life domain balance” as a more encompassing construct. Life domain balance as a concept does better justice in acknowledging the diversity of domains (e.g. paid work, housework, child-care, relationship, friends, hobbies, sports, voluntary work). New research should strive for this broader approach and aim new forms of operationalization.

Conclusion

Bearing in mind its limitations, this study has advanced a new perspective on volunteering, observing its role within the larger network of life domains and signalizing a shift away from the dominant gerontological perspective on volunteering and health. It is possible that volunteering might contribute to a greater sense of life balance among those still active in the workforce, which in turn leads to lower levels of burnout and stress and higher levels of psychological, emotional and social well-being. Further research is needed that might undergird such causal statements. Research programs that aim for a deeper understanding of the interplay among life domains would be able to better inform practitioners (both in private and non-profit sectors) regarding work design and opportunities for their employees that might lead to a spiral of balance and well-being.
References


Fig. 1. Hypothesized model. Solid lines represent the hypothesized paths; dotted lines represent the effect of established control variables.
Table 1. Descriptive statistics

<table>
<thead>
<tr>
<th>Variables</th>
<th>Volunteers (N=264)</th>
<th>Non-Volunteers (N=482)</th>
<th>Total (N=746)</th>
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<tbody>
<tr>
<td><strong>Mean Age (SD)</strong></td>
<td>42.84 (11.64)</td>
<td>41.65 (11.67)</td>
<td>42.07 (11.67)</td>
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<td><strong>Gender</strong></td>
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<td>male</td>
<td>161 (61%)</td>
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<td>388 (52%)</td>
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<tr>
<td>female</td>
<td>103 (39%)</td>
<td>255 (52.9%)</td>
<td>358 (48%)</td>
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<td>20-31 hours a week</td>
<td>42 (16%)</td>
<td>78 (16.2%)</td>
<td>120 (16.1%)</td>
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<td>32-39 hours a week</td>
<td>37 (14%)</td>
<td>90 (18.7%)</td>
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<td>40+ hours a week</td>
<td>185 (70%)</td>
<td>314 (65.1%)</td>
<td>499 (66.9%)</td>
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<td><strong>Education</strong></td>
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<td>10 (2.1%)</td>
<td>14 (1.9%)</td>
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<td>129 (48.9%)</td>
<td>296 (61.5%)</td>
<td>425 (56.9%)</td>
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<td>87 (33%)</td>
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</tr>
<tr>
<td><strong>Children in the Household</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>None</td>
<td>177 (67%)</td>
<td>340 (70.5%)</td>
<td>517 (69.3%)</td>
</tr>
<tr>
<td>1-2 children</td>
<td>74 (28%)</td>
<td>117 (24.3%)</td>
<td>191 (25.6%)</td>
</tr>
<tr>
<td>3+ children</td>
<td>13 (5%)</td>
<td>25 (5.2%)</td>
<td>38 (5.1%)</td>
</tr>
<tr>
<td><strong>Hours per week spent in housework (SD)</strong></td>
<td>6.89 (5.37)</td>
<td>6.70 (5.52)</td>
<td>6.77 (5.47)</td>
</tr>
<tr>
<td><strong>Frequency of volunteering</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rarely / 2-5 times a year</td>
<td>60 (22.7%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>1-3 times a month</td>
<td>84 (31.8%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Once a week</td>
<td>59 (22.3%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Several times a week</td>
<td>61 (23.1%)</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td><strong>Hours spent in an average volunteering day (SD)</strong></td>
<td>4.45 (1.88)</td>
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</tr>
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</table>
Table 2. Correlation table for study variables

<table>
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<th>4</th>
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<th>11</th>
<th>12</th>
<th>13</th>
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<td></td>
<td></td>
</tr>
<tr>
<td>2. Age</td>
<td>.06</td>
<td>-</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Gender</td>
<td>-.16**</td>
<td>-.17**</td>
<td>-</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. Quantitative demands</td>
<td>-.12**</td>
<td>-.03</td>
<td>-.06</td>
<td>(.85)</td>
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<td></td>
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</tr>
<tr>
<td>5. Emotional demands</td>
<td>.08**</td>
<td>.11**</td>
<td>.04</td>
<td>.22**</td>
<td>(.84)</td>
<td></td>
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<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>6. Cognitive demands</td>
<td>.13**</td>
<td>.15**</td>
<td>-.08*</td>
<td>.22**</td>
<td>.44**</td>
<td>(.75)</td>
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</tr>
<tr>
<td>7. Job significance</td>
<td>.03</td>
<td>.12**</td>
<td>-.07</td>
<td>-.14**</td>
<td>.25**</td>
<td>.31**</td>
<td>(.94)</td>
<td></td>
<td></td>
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<td></td>
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<tr>
<td>8. Social support</td>
<td>.02</td>
<td>.11**</td>
<td>.06</td>
<td>-.16**</td>
<td>.19**</td>
<td>.22**</td>
<td>.42**</td>
<td>(.80)</td>
<td></td>
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</tr>
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<td>9. Autonomy</td>
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<td>.10**</td>
<td>-.10**</td>
<td>-.01</td>
<td>.22**</td>
<td>.45**</td>
<td>.47**</td>
<td>.37**</td>
<td>(.83)</td>
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<td>10. WHC</td>
<td>-.11**</td>
<td>-.20**</td>
<td>.07</td>
<td>.40**</td>
<td>.20**</td>
<td>.04</td>
<td>-.27**</td>
<td>-.20**</td>
<td>-.17**</td>
<td>(.78)</td>
<td></td>
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<tr>
<td>11. WHE</td>
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<td>.17**</td>
<td>.01</td>
<td>-.09</td>
<td>.13**</td>
<td>.20**</td>
<td>.27**</td>
<td>.21**</td>
<td>.17**</td>
<td>-.07 (.69)</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>12. Burnout</td>
<td>-.11**</td>
<td>-.20**</td>
<td>.17**</td>
<td>.33**</td>
<td>.15**</td>
<td>.01</td>
<td>-.29**</td>
<td>-.20**</td>
<td>-.16**</td>
<td>.58**</td>
<td>-.14**</td>
<td>(.90)</td>
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<td></td>
</tr>
<tr>
<td>13. Stress &amp; symptoms</td>
<td>-.08*</td>
<td>-.20**</td>
<td>.20**</td>
<td>.36**</td>
<td>.21**</td>
<td>.03</td>
<td>-.28**</td>
<td>-.19**</td>
<td>-.19**</td>
<td>.62**</td>
<td>-.13**</td>
<td>.77**</td>
<td>(.90)</td>
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<td></td>
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<tr>
<td>14. Positive mental health</td>
<td>.16**</td>
<td>.12**</td>
<td>-.03</td>
<td>-.17**</td>
<td>.09**</td>
<td>.23**</td>
<td>.46**</td>
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<td>.28**</td>
<td>-.41**</td>
<td>.34**</td>
<td>-.47**</td>
<td>-.49**</td>
<td>(.91)</td>
<td></td>
</tr>
<tr>
<td>15. Work Engagement</td>
<td>.06</td>
<td>.17**</td>
<td>-.05</td>
<td>-.14**</td>
<td>.18**</td>
<td>.29**</td>
<td>.68**</td>
<td>.42**</td>
<td>.44**</td>
<td>-.34**</td>
<td>.36**</td>
<td>-.40**</td>
<td>-.39**</td>
<td>.58**</td>
<td>(.96)</td>
</tr>
</tbody>
</table>

*p<.05; **p<.01. N=746. Cronbach’s alphas are displayed along the diagonal in parentheses.

Table 3. Stepwise hierarchical regression analyses for the relationship between volunteering, WLB and health outcomes controlling for job demands and resources, age and gender.

<table>
<thead>
<tr>
<th>Steps and predictor variables</th>
<th>WLC</th>
<th>WLE</th>
<th>Burnout</th>
<th>Stress and symptoms</th>
<th>Positive mental health</th>
<th>Work engagement</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>β</td>
<td>ΔR²</td>
<td>β</td>
<td>ΔR²</td>
<td>β</td>
<td>ΔR²</td>
</tr>
<tr>
<td>Step 1: Demographics</td>
<td></td>
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</tr>
<tr>
<td>Age</td>
<td>-.20**</td>
<td>.04**</td>
<td>.15**</td>
<td>.03**</td>
<td>-.18**</td>
<td>.06**</td>
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<tr>
<td>Gender</td>
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<td>.12**</td>
<td>.15**</td>
<td>.02</td>
<td>.02</td>
<td>.02</td>
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<tr>
<td>Step 2: Job Demands</td>
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<td></td>
</tr>
<tr>
<td>Quantitative Demands</td>
<td>.31**</td>
<td>.18**</td>
<td>-.08*</td>
<td>.05**</td>
<td>.12**</td>
<td>.16**</td>
</tr>
<tr>
<td>Emotional Demands</td>
<td>.23**</td>
<td>.01</td>
<td>.19**</td>
<td>.25**</td>
<td>-.07**</td>
<td>.03</td>
</tr>
<tr>
<td>Cognitive Demands</td>
<td>.03</td>
<td>.12**</td>
<td>.03</td>
<td>.03</td>
<td>.03</td>
<td>.10**</td>
</tr>
<tr>
<td>Step 3: Job Resources</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job significance</td>
<td>-.18**</td>
<td>.07**</td>
<td>.16**</td>
<td>-.21**</td>
<td>.19**</td>
<td>.31**</td>
</tr>
<tr>
<td>Social support</td>
<td>-.12**</td>
<td>.01</td>
<td>-.12**</td>
<td>-.13**</td>
<td>-.12**</td>
<td>.26**</td>
</tr>
<tr>
<td>Autonomy</td>
<td>-.08*</td>
<td>-.02</td>
<td>-.03</td>
<td>.09*</td>
<td>.01</td>
<td>.10**</td>
</tr>
<tr>
<td>Step 4: Volunteering</td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Voluntary work</td>
<td>-.10**</td>
<td>.01**</td>
<td>.05</td>
<td>-.10**</td>
<td>.01</td>
<td>.14**</td>
</tr>
</tbody>
</table>

Total R²                      | .30 | .12 | .26 | .32 | .31 | .51 |

Note: Standardized weights are shown. *p<.05; **p<.01. N=746.
Table 4. *Mediation analyses for the Effect of Volunteering on Health Outcomes through Work-Life Conflict.*

<table>
<thead>
<tr>
<th>Model</th>
<th>$B$</th>
<th>SE</th>
<th>$t$</th>
<th>$p$</th>
<th>LB 99% CI</th>
<th>UB 99% CI</th>
<th>$R^2$</th>
</tr>
</thead>
<tbody>
<tr>
<td>Volunteering $\rightarrow$ WLC (a)</td>
<td>-.013</td>
<td>.004</td>
<td>-3.58</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Burnout</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WLC $\rightarrow$ Burnout (b)</td>
<td>1.02</td>
<td>.082</td>
<td>12.47</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteering $\rightarrow$ Burnout (c)</td>
<td>-.033</td>
<td>.009</td>
<td>-3.67</td>
<td>.000</td>
<td>.26</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteering $\rightarrow$ Burnout (c')</td>
<td>-.019</td>
<td>.008</td>
<td>-2.26</td>
<td>.024</td>
<td>-.024</td>
<td>-.004</td>
<td>.39</td>
</tr>
<tr>
<td><strong>Stress &amp; Symptoms</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WLC $\rightarrow$ Stress &amp; Symptoms (b)</td>
<td>.799</td>
<td>.055</td>
<td>14.49</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteering $\rightarrow$ Stress &amp; symptoms (c)</td>
<td>-.013</td>
<td>.006</td>
<td>-2.15</td>
<td>.032</td>
<td>.32</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteering $\rightarrow$ Stress &amp; symptoms (c')</td>
<td>-.002</td>
<td>.005</td>
<td>-4.1</td>
<td>.684</td>
<td>-.019</td>
<td>-.004</td>
<td>.46</td>
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<tr>
<td><strong>Positive Mental Health</strong></td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>WLC $\rightarrow$ Positive mental Health (b)</td>
<td>-.569</td>
<td>.068</td>
<td>-8.28</td>
<td>.000</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteering $\rightarrow$ Positive mental health (c)</td>
<td>.036</td>
<td>.007</td>
<td>4.91</td>
<td>.000</td>
<td>.31</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Volunteering $\rightarrow$ Positive mental health (c')</td>
<td>.026</td>
<td>.007</td>
<td>3.72</td>
<td>.000</td>
<td>.03</td>
<td>.016</td>
<td>.39</td>
</tr>
</tbody>
</table>

Note: Unstandardized regression estimates are shown. Job demands and resources, age and gender were controlled for in all analyses. (a) effect of the independent variable on the mediator; (b) effect of the mediator on the dependent variable; (c) direct effect of the independent variable on the dependent variable; (c') direct effect of the independent variable on the dependent variable controlling for the mediator. Indirect effects (not shown) can be calculated by subtracting the estimates of c’ from c. LB=Lower bound, UB= Upper bound.
Exploring the Interaction Between Volunteering Status, 
Paid Job Characteristics and Quality of Volunteers’ Motivation 
on Health-Related Outcomes

Romualdo Ramos¹²*, Stefan Güntert¹ Rebecca Brauchli², Georg Bauer², 
Theo Wehner¹ & Oliver Hämmig²

1) Department of Management, Technology and Economics, ETH Zurich
2) Institute of Social and Preventive Medicine, University of Zurich

*Corresponding author: Romualdo Ramos
Division Public and Organizational Health, University of Zürich
Winterthurerstrasse 30, CH-8006 Zürich, Switzerland
Email: ramos@ethz.ch
phone: +41 44 632 8932

Keywords: volunteering, community work, multiple roles, self-determination, burnout, stress, work engagement, well-being.

Target journal: Voluntas: International Journal of Voluntary and Non-Profit Organizations
Abstract

The literature on the health-promoting effects of community work has primarily dealt with the population in retirement age, yet the vast majority of volunteers are people still in the workforce. The aim of this study is to observe the relationship between volunteering and health in context, considering paid job characteristics and motives to volunteer in a sample of Swiss workers. Results from an online survey show that volunteers with self-determined motives report lower levels of stress and burnout than non-volunteers. Moreover, volunteers in general (regardless of the quality of motivation) report higher levels of work engagement and well-being. Analyses further reveal an interaction effect for burnout and stress, where the difference between self-determined volunteers and non-volunteers becomes larger when working conditions in the paid job are unfavorable. Implications for future research and the voluntary sector are discussed.
Introduction

While the added value of formal volunteering at the societal and community level is widely recognized, researchers in later years have increasingly turned to its benefits at the individual level. By now, the notion of volunteering as an activity that fosters health and well-being has garnered considerable empirical support. Volunteering has been linked, among others, with greater life satisfaction (Thoits & Hewitt, 2001; Van Willigen, 2000), lower depression levels (Musick, Herzog & House, 1999), better self-rated health (Piliavin & Siegl, 2007) and even lower mortality rates after controlling for other health determinants (Konrath, Fuhrel-Forbis, Lou & Brown, 2012; Luoh & Herzog, 2002). Evidence is based on both cross-sectional and longitudinal data (for a review see Jenkinson et al., 2013). However, the field has been led by a gerontological approach to this research question, focusing primarily on the population in (or near to) retirement age. This is attestable through the dominance of publications in gerontological journals. Statistics show, however, that the vast majority of volunteers are actually people in working age (US Bureau of Labor Statistics, 2013). Polls in Switzerland -where the current study took place- further reveal that, aside from some gender differences, people working full-time are actually more likely to volunteer than part-time workers and the unemployed (Stadelmann-Steffen, Traunmüller, Gundelach & Freitag, 2010). This fact calls for a more holistic understanding of the intricacies between volunteering, paid work and health.

One of the reasons why scholars might have concentrated on the retired population is that the effects in this group have shown to be larger (Grimm, Spring & Dietz, 2007). This could be explained by the possibility that voluntary work plays a much more central role during retirement, freed from the shadows of paid work at a younger age. Another explanation is the fact that older individuals manifest a much larger health variance, what might statistically facilitates the effects. In any case, the impact of other life roles, which might be
(and in fact are) more ubiquitous in a person's life have been largely ignored. We believe that, in the face of multiple roles -as it is the case before retirement-, volunteering and paid work might operate in tandem. In particular, we suggest that job demands and resources (hereafter we refer to "job" as the paid work) might interact with volunteering status, yielding different health patterns.

Another often quoted reason for the effect differences between younger and older volunteers is that the latter are more intrinsically motivated (Grimm et al., 2007). In this regard, self-determination theory (SDT; Deci & Ryan, 2010) serves as a robust theoretical framework in explaining differences in motivation and well-being. While it is known that motivation shifts from extrinsic to intrinsic as we age (Carstensen, 2006; Kooij, De Lange, Jansen, Kanfer & Dikkers, 2011), we argue that motives to volunteer, above and beyond the age factor, might play a decisive role in health outcomes.

We will now elaborate on the theoretical and empirical rationale for this study, drawing from research on multiple roles, occupational health models and theories of motivation, and establishing their applicability within the context of voluntary work and well-being.

**Research on multiple roles**

*Role strain and role enhancement.* Individuals occupy different roles in their lives: they might be sons and daughters, students, parents, employees, and volunteers, among a plethora of other roles they may have in their communities. Different roles might be salient at different points in a lifetime or they might occur concomitantly. There have been two opposing perspectives in research on the occupation of multiple roles and well-being. On the one hand, the *role strain* hypothesis highlights the drawbacks of role accumulation, arguing that individuals have limited resources, what might hinder the fulfillment of different role obligations (Goode, 1960). Moreover, strain might be a product not only of depleted time
resources, but also incompatibility or "discrepant expectations" among roles (Sieber, 1974; p.567). According to the role strain hypothesis, this multiplicity is ultimately conducive to stress and exhaustion. On the other hand, scholars have long argued that the occupation of different roles might actually foster well-being (Greenhaus & Powell, 2006, Grzywacz & Marks, 2000). The advocates of the role enhancement hypothesis posit that "multiple roles may increase or enhance one's energy by increasing sources of identity, self-esteem, rewards and resources available to cope with the multiple demands" (Marks, 1977). Within this research agenda, volunteering could be seen as a potential source of enhancement.

The interface between paid work and voluntary work. The role strain and the role enhancement perspectives have been extensively elaborated in research programs on the work-family interface (for a review see Greenhaus & Allen, 2010). However, little has been researched on the interplay between job and volunteering. Two studies are particularly of interest in this context. Using a one-week diary study, Mojza and Sonnentag (2010) found that volunteering after work moderated the relationship between situational constraints at work (i.e. job demands) and positive affect during the following working day. Whereas situational constraints and positive affect were negatively correlated on evenings when participants did not volunteer, the effect was buffered after evenings in which they performed voluntary work. These findings support the idea behind the role enhancement hypothesis, revealing that the participation in one domain may influence the affective state in another domain. The second study was conducted by Rodell (2013) and unveils the symbiotic relationship between job and volunteering meaningfulness. The author found that meaningfulness in both domains was associated with higher levels of volunteering and that the impact of meaningful voluntary work was stronger when participants reported less meaning in their jobs. Moreover, volunteering was related to greater job absorption (a dimension of work engagement) and better job performance.
One tacit claim in Rodell’s (2013) article (which is also implied by the title) is that the experience of meaningfulness in voluntary work might motivate workers to engage in such activities, in search of a meaning that they lack in their paid jobs. While there might be a kernel of truth in this assumption, it is not to be derived from the characteristics of a voluntary activity but from the direct assessment of volunteers’ motives. Moreover, this assumption implies that a compensation mechanism might be at play when working conditions are suboptimal. In regard to the availability of resources, previous research on volunteering has proposed two opposing hypotheses: on the one hand, the complementary hypothesis posits that individuals with ample psychosocial resources are better positioned to capitalize on the resources provided by their voluntary work, thus reaping the most benefits. On the other hand, the compensatory hypothesis suggests that the benefits of volunteering might be stronger for individuals with limited psychosocial resources, since volunteering helps to offset such deficits (Okun, Rios, Crawford & Levy, 2011; Oman, 2007). Okun and colleagues found support for the compensatory hypothesis in regard to volunteering, well-being and the number of chronic health conditions (an indicator of physical resources). Yet there has been little empirical testing of psychosocial aspects. This study tests both hypotheses by considering not only job meaningfulness, but a broader range of psychosocial demands and resources at the workplace and the role of volunteering in explaining work-related health outcomes.

**Job Demands-Resources model.** The Job Demands-Resources model (Demerouti, Bakker, Nachreiner & Schaufeli, 2001) has gained considerable acceptance among researchers and practitioners when it comes to the assessment of stressors at the workplace and their implications. The later versions of the model (Schaufeli & Bakker, 2004) propose two parallel processes or axes: in the health-impairment axis, job demands are predictors of burnout, which in turn explains negative outcomes (e.g. health complaints). The second axis is the motivational axis, where job resources are the antecedents of work engagement, which
in turn explains positive outcomes (e.g. job performance, well-being). In addition, job resources can buffer the effects of job demands on burnout (Bakker, Demerouti & Euwema, 2005). There has been vast empirical evidence (both cross-sectional and longitudinal) for the JD-R model in different kinds of occupational settings and in different cultures (for an overview, see Schaufeli & Taris, 2014).

For the purposes of this study (and since our focus is on volunteering), we have opted for a parsimonious depiction of the overall working conditions by calculating a job demands-resources ratio (JD-R ratio; Jenny, Brauchli, Füllemann & Bauer, submitted). This approach is in line with the premises of translational research, which attempts to simplify scientific models for their practical use and implications. By computing a single factor resulting from the quotient of resources over demands, Jenny and colleagues found unambiguous positive correlations between the ratio and different outcomes (e.g. health, productivity). Moreover, the loss in explained variance due to aggregation was particularly small for outcomes predicted by both factors simultaneously (i.e. Job demands and job resources). Similar index approaches have been implemented in other job stress models such as the Effort-Reward Imbalance model (Tsutsumi & Kawakami, 2004).

Research on Motivation and Well-Being

Self-determination Theory. Self-determination theory (SDT) is a macro theory concerned with innate psychological needs and the quality of human motivation (Deci & Ryan, 2010). According to the authors, there are three basic human needs: autonomy, competence and relatedness. Autonomy refers to the ideal of being free and true to one’s values. Competence is the feeling of being useful and able to act upon the world in ways that generate positive changes. Finally, relatedness refers to the need for close interpersonal relationships (Weinstein & Ryan, 2010). These basic needs are crucial for psychological
growth, a sense of integrity and well-being, representing a powerful motivational force (Ryan & Deci, 2001).

When it comes to the quality of human motivation, SDT distinguishes between self-determined and controlled motivation. Self-determined motivation refers to a volitional course of action, where individuals fully endorse their doings and they experience full freedom of choice. In contrast, controlled motivation connotes a sense of pressure of having to engage in a particular type of behavior. Deep-rooted convictions are not the locus of behavioral regulation, with overt external pressure, feelings of guilt or contingent self-worth being some of the triggering factors (Deci & Ryan, 2010). The SDT further postulates a continuum between self-determined and controlled motivation with varying degrees of internalization (for details see Deci & Ryan, 2000). Ever-growing empirical evidence shows that self-determined motivation is a stronger predictor of well-being than controlled motivation (Nix, Ryan, Manly & Deci, 1999; Weinstein and Ryan, 2010).

**The functional approach to volunteers’ motives and SDT.** The functional approach is the pioneering framework in the assessment of volunteers’ motives and has been extensively used in the volunteering research (Clary et al., 1998). The authors propose six goals or functions a voluntary work can fulfill: expression of deep-rooted values related to altruistic or humanitarian concerns (*values motive*), the acquisition of new skills and knowledge (*understanding motive*), individual growth and development (*enhancement motive*), the improvement of career prospects (*career motive*), alignment with the expectations of the closest social circles (*social motive*) or the offset of negative feelings triggered by a sense of guilt, loneliness or other personal problems (*protective motive*). The Volunteer Functions Inventory (VFI; Clary et al. 1998) is a tool that has been primarily used within the context of recruitment, retention and voluntary work design. Only a handful of studies have observed the potential health implications of volunteers’ motives. (e.g. Gillath et
However, their grouping arrangement of volunteers’ functions into self-oriented and other-oriented motives has yielded some inconsistent results. We argue that it might not necessarily be the target of the voluntary service what determines well-being but the volitional aspect: that is, whether the behavioral regulation is experienced as self-determined or controlled.

The relationship between SDT and VFI concepts has been established in some studies. MacLellan and Kelloway (2014) assessed both the quality of motivation through SDT items and volunteers’ functions. They found that volunteers with values (VFI) and autonomous motives (SDT) reported increased psychological well-being, whereas volunteers with protective, career (VFI) and controlled motives (SDT) reported decreased psychological well-being. There have been also attempts to map the VFI dimensions onto the autonomous-controlled continuum of the SDT. Finkelstein (2009) submitted the 30 items of the VFI to a principal axis factor analysis and found that a two-factor solution with self-determined and controlled motives was able to predict volunteer self-concept, prosocial personality, volunteer time and motive strength, with higher scores for self-determined volunteers. Finally, in the validation study of the German VFI, Oostlander et al. (2013) tested the construct validity of the scale, correlating all six dimensions with the four levels of behavioral regulations postulated by the SDT (for details see Deci & Ryan, 2000) and the quality of motivation (i.e. autonomous vs. controlled orientation). They found that the quality of motivation showed a clear pattern where values and understanding motives were highly correlated with self-determined motivation, whereas the remaining motives were associated with controlled motivation.

The present study

Based on research on multiple roles and motivation, this study explores the interaction between volunteering status, job characteristics and volunteers’ motives in a sample of Swiss
employees. We chose our outcome variables on the basis of the revised JD-R model (Schaufeli & Bakker, 2004): burnout and work engagement (as the two more job-related outcomes), stress and related symptoms (negative health outcome) and psychological, emotional and social well-being (positive health outcome). While we expect the JD-R ratio to be the strongest predictor of our outcome variables, we also anticipate differential patterns for the role of volunteering as a health-promoting activity. Based on the predicates of Okun et al (2011), we foresee two possible scenarios: volunteers with an unfavorable JD-R ratio in their paid jobs (i.e. when job demands are high and job resources are low) might show better health than non-volunteers in similar working conditions (compensatory hypothesis). The opposite may also apply, i.e. volunteers with a favorable JD-R ratio (i.e. low job demands and high job resources) report better health than non-volunteers in similar working conditions (complementary hypothesis). Furthermore, we make use of the correlational findings from Oostlander et al. (2013) to understand volunteers’ functions in terms of self-determined and controlled motives. We expect a moderating effect such that self-determined motives are more strongly associated with positive health outcomes than controlled motives.

Method

Procedure and participants

The data for this study stems from an online poll we conducted on “work and leisure” in the German-speaking part of Switzerland. The data of 552 Swiss employees were analyzed, of which 292 were additionally volunteers in a nonprofit organization. The sample was later reduced (N=500) as a result of the division of volunteers in two motivation profiles (see below). Almost 70% of our sample was composed of full-time workers. Forty-six percent were women and the mean age was 42.3 (SD=11.83).

Measures for predictor variables

Job demands and resources. We used subscales from the Work Design Questionnaire
Morgenson & Humphrey, 2006) and the Second Copenhagen Psychosocial Questionnaire (COPSOQ II; Pjetersen, Kristensen, Borg & Bjomer, 2010) in order to capture the distribution of demands and resources in participants’ paid work. On the demands’ side, we focused on quantitative demands only (4 items; e.g. “Do you have enough time for your work tasks?”), as these demands have shown to be the primary source of work stress (Geurts, Rutte & Peeters, 1999). We measured resources with three components: autonomy (e.g. “The job gives me considerable opportunity for independence and freedom in how I do the work”), social support (e.g. “My supervisor is concerned about the welfare of the people that work for him/her”) and job significance (e.g. “Do you feel that the work you do is important?”). All items were rated on a 5-point Likert scale with labels depending on the scale of origin. Given the call for a condensed appraisal of job demands and resources for practical purposes, we calculated a JD-R ratio following the procedure by Jenny et al (submitted). We first computed a grand mean for resources and demands respectively, and then calculated the quotient of resources over demands. Higher scores in JD-R ratio were indicators of favorable working conditions.

Volunteering motives. We administered the validated German version (Oostlander et al., 2013) of the Volunteer Functions Inventory (VFI; Clary et al., 1998). All items were based on a 7-point Likert scale ranging from “not at all important/accurate” to “extremely important/accurate”. Based on the correlations found between VFI and SDT constructs (Oostlander et al., 2013), we created a VFI-Index that would allow us to assess the quality of motivation (i.e. controlled vs. self-determined). We reverse-coded the items for career, social, protective and enhancement motives and calculated an average score. We also averaged the scores for values and understanding motives and then created a grand mean with both scores. Low scores represent controlled motivation whereas high scores are indicative of self-determined motivation. In a later step, we dichotomized the VFI-Index in low and high
scorers, including participants below the 40th and above the 60th percentile (effective final N for the analysis =500). The choice of these cut-off points was a compromise between creating clear, distinguishable motivation profiles and losing the least amount of participants. Despite the well-known drawbacks incurred in the dichotomization of continuous variables (MacCallum, Zhang, Preacher & Rucker, 2002), this practice is herein justified, as our variable of interest (i.e. volunteering status: yes/no) is categorical (DeCoster, Iselin & Gallucci, 2009). In other words, the observation of motives in two groups (volunteers with controlled motivation vs. volunteers with self-determined motivation) allows us to make comparisons with the control group of non-volunteers. Following convention on interactions between categorical and continuous variables (Aiken & West, 1991), we created two dummy variables. We coded variable $D_1$ as controlled=1, self-determined=0 and non-volunteers=0. Variable $D_2$ was coded as controlled=0, self-determined=1 and non-volunteers=0. Thus, non-volunteers served as comparison group.

**Measures for outcome variables**

**Burnout.** We used the 4-item scale from COPSOQ II (Pejtersen et al., 2010) to assess the frequency of episodes of exhaustion (e.g. “How often have you felt worn out?”). Answers were on a 5-point Likert scale from “never/almost never” to “always”.

**Stress and related symptoms.** We used the 12 items from the COPSOQ II scale (Pejtersen et al., 2010) to measure overall stress (e.g. “How often have you been tense?”) and the ensuing cognitive (e.g. “How often have you had problems concentrating?”) and somatic symptoms (e.g. “How often have you had tension in various muscles?”). The questions were rated on a 5-point Likert scale from “never” to “always”.

**Work Engagement.** Work engagement is “the positive work-related state of fulfillment that is characterized by vigor, dedication and absorption” (Schaufeli, Bakker &
Salanova, 2006; p.701). Each of these three aspects are captured in a 9-item scale. Examples are “I am proud of the work that I do” and “I get carried away when I am working”.
Participants rated the frequency of these events on a 7-point Likert scale from “never” to “always”.

**Positive mental health.** The Mental Health Continuum (short-form) questionnaire (MHCsf; Lamers et al.,2011) was administered in order to assess psychological, emotional and social well-being, derived from an overall appraisal of one’s social functioning, emotional stability and life satisfaction. Participants were asked to rate on a 6-point Likert scale the frequency of positive feelings and emotions within the last month. Examples are “During the past month, how often did you feel that your life has a sense of direction or meaning to it?, “(…) that you belong to a community?” or “(…) that you like most parts of your personality?”. Participants answered on a 6-point Likert scale ranging from “never” to “every day”.

**Data coding and analysis**

We proceeded with the data analysis as follows: we first ran a bivariate correlation analysis among all study variables, including the compound variables (i.e. JD-R ratio and VFI-Index) and their subscales. We then performed four multiple regression analyses (one for each outcome variable) using Hayes’ (2013) PROCESS Macro for testing moderation effects. We also applied the Johnson-Neyman technique to calculate regions of significance where necessary (Bauer & Curran, 2005). Age and gender were controlled for in all the analyses. Finally, we plotted the regression lines of all three groups considering their scores on the outcome variables at one standard deviation below and one standard deviation above the mean of the JD-R ratio (Aiken & West, 1991).

**Results**

**Correlations among study variables**
Bivariate correlations are displayed in Table 1. All four subscales of the JD-R ratio were intercorrelated, further supporting their condensation into a single factor. The ratio was negatively associated with burnout and stress, and positively associated with work engagement and positive mental health. In sum, this simple analysis shows that the JD-R ratio is a reliable instrument in predicting health outcomes, and at the same time parsimonious when a broad, general picture is needed.

The VFI-index was positively correlated to values and understanding motives and negatively correlated with the remaining motives. Moreover, the index was negatively associated with burnout and stress, and positively associated with work engagement. Correlations of the VFI subscales with job demands, job resources and health outcomes were expected to be rather low in comparison to the unequivocal, strong relationship between JD-R and health. However, we found some significant correlations, such as those of understanding and value motives with positive mental health and work engagement. Most predominantly, protective motives were highly correlated with burnout, stress and all JD-R dimensions.

-----TABLE 1 ABOUT HERE-----

**Regression analysis with interaction terms**

The results of the four regression analyses are shown in Tables 2 and 3 and the corresponding interaction plots are displayed in Figure 1 (outcome variables in the plot graphs are shown in standardized form so as to enable comparisons across measures).

-----TABLE 2 ABOUT HERE-----

Table 2 presents the results for the outcomes along the health-impairment axis, i.e. burnout and stress. Both control variables (age and gender) showed significant effects in both measures: burnout ($\beta = -.16$) and stress ($\beta = -.16$) were negatively associated with age, and women in our sample reported higher levels of burnout ($\beta = .16$) and stress ($\beta = .18$) than
When observing main effects, the JD-R ratio was, as expected, negatively associated with both measures ($\beta = -.36$ and $\beta = -.39$ respectively), accounting for most of the variance. From the two dummy-coded variables, only self-determined volunteers differed from non-volunteers, reporting significantly lower levels of burnout ($\beta = -.13$) and marginally lower levels of stress ($\beta = -.07$). Volunteers with controlled motivation displayed scores and slopes similar to non-volunteers in both measures. Furthermore, an interaction effect was at work: self-determined volunteers set themselves increasingly apart from non-volunteers and volunteers with controlled motives as the JD-R ratio decreased (region of significance for burnout: $z < .36, p < .05$; region of significance for stress: $z < -.05, p < .05$). In other words, participants with unfavorable job conditions seemed to benefit more from volunteering when self-determined motives were the driving force. However, when working conditions were favorable (i.e. high JD-R ratio) all three groups had similar burnout and stress levels.

-----TABLE 3 ABOUT HERE-----

The pattern was somewhat different along the motivational axis. The results are shown in Table 3. First, while age was associated with more work engagement ($\beta = .16$) and better positive mental health ($\beta = .10$), no effects were found for gender. Second, whereas JD-R was, as expected, the strongest predictor of work engagement ($\beta = .41$) and positive mental health ($\beta = .39$), we have also found main effects for both dummy variables. In other words, both groups of volunteers showed more work engagement and better positive mental health in comparison to non-volunteers. The effect was somewhat stronger for self-determined volunteers ($\beta = .20$ in both measures) than for those with controlled motivations ($\beta = .16$ and $\beta = .18$). Finally, we found no interaction effects for the positive outcome measures, with volunteers reporting higher levels of work engagement and well-being in comparison to non-volunteers, regardless of their working conditions.
In sum, we have found differential effects of volunteering, contingent to paid work conditions, motives to volunteer and, unexpectedly, contingent to the outcome variables that were observed. We will now discuss the implication of these findings for future research and for the voluntary sector.

Discussion

The aim of this study was to observe the relationship between volunteering and health-related outcomes in context rather than in isolation. The dominant gerontological perspective to this research question has resulted in a knowledge gap regarding the largest group in the volunteering sector, namely people in the workforce. By considering the characteristics of people's paid work and their motives to volunteer, this study adds to the understanding of volunteering as a psychosocial resource in the face of multiple roles.

The use of various outcome variables revealed differences and commonalities: first, as expected, a favorable JD-R ratio was consistently associated with better health outcomes: when participants experienced meaningfulness, autonomy and social support in their jobs, and at the same time felt in control of their workload (i.e. low quantative demands), they reported lower levels of burnout and stress symptoms, more work engagement and they strived emotionally, socially and psychologically as captured by the positive mental health scale. This is consistent with the vast literature on the health effects of job demands and resources (Bakker & Demerouti, 2007) and requires no further elaboration.

The novelty lies on the interaction between working conditions, motives to volunteer and volunteering status. Along the health impairment axis, we found that volunteers with controlled motivation did not differ from non-volunteers in their burnout and stress appraisals. However, self-determined volunteers differed significantly in burnout levels and marginally in stress levels from non-volunteers. These results may imply that voluntary work (which is
per definition time-demanding) might be experienced differently based on motives. On the one hand, self-determined volunteers might perceive it as a challenging demand, in the sense that it promotes mastery, personal growth and self-actualization. On the other hand, when controlled motives prevail, volunteering might be seen as a hindering demand, which comes along with the experience of stress and exhaustion (along this stream of thought please refer to Van den Broeck, De Cuyper, De Witte & Vansteenkiste, 2010). Furthermore, the gap between self-determined volunteers and non-volunteers became larger as a function of a decreasing JD-R ratio. When participants reported above-average working conditions (i.e. high JD-R ratio) all three groups no longer differed from each other. This interaction effect supports the compensatory hypothesis, which posits that people with less resources benefit the most from volunteering. The compensatory effect was found in previous research in regard to physical resources (see Okun et al. 2011) and the present study further extends it to resources of the psychosocial type as those found in the work domain. In other words, volunteering out of self-determination might offset resource deficits at the job, contributing to lower levels of burnout and stress.

However, we found a different pattern along the motivational axis. First, all volunteers (regardless of their motives) reported higher levels of work engagement and positive mental health than non-volunteers, although the effects were somewhat stronger for the self-determined group. How do we explain this different alignment for volunteers with controlled motivation? Although they report high burnout and stress levels, it seems plausible that people with controlled motives (where career advancement and the influence of social circles -including the workplace- play an important role) are also more engaged in their paid jobs. Inversely, if their high levels of work engagement motivate them to volunteer (be it as a way of obtaining competitive advantage or recognition), this could be seen as an act of over-commitment. Over-commitment has been associated with stress and exhaustion (Siegrist,
1996). While this is a viable hypothesis, it cannot be tested with the current, cross-sectional data. We also found that, contrary to the health impairment axis, no interaction effects were at work, meaning that the main effect for volunteering was irrespective of paid work conditions. In the face of these results, both the compensatory and the complementary hypotheses would apply in explaining work engagement and positive mental health. This differential pattern between the health-impairment and motivational axis might speak for some of the rationale and empirical evidence found in the JD-R literature. As mentioned earlier, the model posits that demands directly affect negative health outcomes (such as burnout and stress). However, resources not only enhance motivation and well-being, but also help to buffer the effect of demands on strain (Bakker et al., 2005). When we observe volunteering as a psychosocial resource that enables social relatedness, the experience of meaningfulness and a heightened sense of mastery, then the compensatory (buffering) effects along the health impairment axis and the complementary (boosting) effects along the motivational axis seem plausible.

**Contributions, limitations and future research**

By considering individuals' working conditions, this study has shed a new light on the approach to volunteering and well-being. The revealed patterns show that different life roles might contribute to our health in different ways and in interaction with each other. Furthermore, the driving force behind people’s actions (whether internal or external) has also proven to be an important determinant of health-related outcomes. Albeit small, these interaction effects were found in a sample of Swiss workers with heterogeneous occupational backgrounds.

Second, this study has also shown that indexes such as the JD-R ratio (Jenny et al., submitted) and the VFI-Index developed in this study on the basis of SDT correlates
(Oostlander et al., 2013) can be useful tools for simplifying scientific models and constructs, facilitating integrative practical applications.

At this point, certain limitations should be addressed. First and foremost, we should mention the self-report, cross-sectional nature of the study. Such a design does not allow causal interpretations, meaning that either volunteering could promote health or health could be a prerequisite for volunteering. In fact, there is empirical evidence in both directions (Li & Ferraro, 2006). However, we think that the revealed interaction effects (rather than claims of causation) stand at the core of our findings, paving the way for a more contextualizing approach to research questions around volunteering. While common-method effect cannot be fully ruled out due to the use of self-report only, this concern is less dramatic in moderation analyses like the ones conducted here, as they have shown to be less vulnerable to such biases (Siemsen, Roth & Oliveira, 2010).

The simplification of working conditions and volunteers’ motives in this study served its purpose, illustrating patterns through clear dichotomizations (i.e. favorable vs. unfavorable working conditions; self-determined vs. controlled motivation). However, this is at the expense of some explained variance, even when such losses have shown to be rather low (Jenny et al., submitted). In addition, we assessed demands with only one dimension (i.e. quantitative demands). After obtaining this larger picture, future studies might want to strive for the details, eventually pairing specific working conditions to specific motives to volunteer. This would certainly require a more controlled, specific sampling regarding occupational fields and areas of volunteering. A closer observation could additionally explain much of the riddles around the age factor. In this study, we found a main effect for age in all outcome variables, hinting toward better work-related health as people get older. This could well be the sign of a healthy-worker effect (Li & Sung, 1999), yet we believe that the motivational shifts that come along with age might have a strong explanatory potential: first, as to why people
volunteer, and second, as to what resources become relevant (or irrelevant) across the lifespan. As we argued in the introduction, motivation gradually shifts from external to internal with age (Kooij et al., 2011) and aging individuals downplay the instrumentalization of their actions in favor of the maintenance of positive social relationships and experiences that elicit positive emotions (Carstensen, 2006). Hence, motives and resources that were important in an earlier life stage, might become less relevant (or even detrimental) later in life. A more discerning approach, considering a broader array of demands and resources (both in the job and in the voluntary work) could yield valuable insights for work design in both domains throughout the lifespan.

**Practical implications**

The evidence for the health-promoting effects of volunteering has been growing steadily in the last years. However, little has been researched on volunteering in interaction with other life domains. A research program that further develops this path would be able to deliver insights for best practices on how to accommodate both activities and for the optimization of the work design in both domains. Longitudinal studies may be able to disentangle some of the differential patterns we found for different health outcomes. In this regard, it is also important to consider earlier empirical evidence for the relationship between volunteering and health in the opposite direction: People with higher education levels (and presumably with more resourceful jobs), better integration, and those who are healthy in the first place are more likely to volunteer (Li & Ferraro, 2006; Thoits & Hewitt, 2001; see also US Bureau of Labour Statistics, 2013; Stadelmann-Steffen, et al, 2010). These selection biases may be the result of socialization processes and convenient recruitment strategies (e.g. Corporate Volunteering), which might influence the likelihood that a person be exposed to volunteering. Bearing this in mind, nonprofit organizations may want to strive toward a
diversification of the volunteering workforce, and address different sectors of the community with different occupational backgrounds. Our data suggests that people with unfavorable working conditions might particularly benefit from volunteering, compensating the high demands and lack of resources in their paid jobs. Finally, the results suggest that the different socialization instances (particularly the education system) should instill the visions and values of a solidary community from an early age and that recruitment strategies desist from the instrumentalization of volunteering, so that intrinsic, self-determined action can unfold.

References


Jenny G.J., Brauchli, R., Füllemann, D. & Bauer, G.F. *Corporate Health Index: Translating the JD-R model for company stakeholders.* Manuscript submitted for publication.


Table 1. Correlation table for study variables

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<td>13. Stress &amp; related symptoms</td>
<td>.00</td>
<td>-.01</td>
<td>.15*</td>
<td>.09</td>
<td>.07</td>
<td>.25**</td>
<td>-.20**</td>
<td>.37**</td>
<td>-.18**</td>
<td>-.25**</td>
<td>-.19**</td>
<td>-.39**</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Burnout</td>
<td>-.05</td>
<td>-.09</td>
<td>.09</td>
<td>.01</td>
<td>.05</td>
<td>.22**</td>
<td>-.21**</td>
<td>.36**</td>
<td>-.19**</td>
<td>-.28**</td>
<td>-.18**</td>
<td>-.38**</td>
<td>.79**</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Positive mental health</td>
<td>.12*</td>
<td>.12*</td>
<td>.03</td>
<td>.11</td>
<td>.08</td>
<td>-.05</td>
<td>.07</td>
<td>-.16**</td>
<td>.39**</td>
<td>.45**</td>
<td>.29**</td>
<td>.39**</td>
<td>-.48**</td>
<td>-.49**</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Work Engagement</td>
<td>.01</td>
<td>.14*</td>
<td>-.04</td>
<td>.05</td>
<td>-.02</td>
<td>-.12</td>
<td>.13*</td>
<td>-.14**</td>
<td>.41**</td>
<td>.68**</td>
<td>.41**</td>
<td>.42**</td>
<td>-.38**</td>
<td>-.40**</td>
<td>.57**</td>
<td></td>
</tr>
</tbody>
</table>

*p<.05; **p<.01. N=552 except where VFI subscales were analyzed (N=292).

Cronbach’s alphas are displayed between parentheses along the diagonal line.
Table 2. Multiple regression for burnout and stress & related symptoms as outcome variables.

<table>
<thead>
<tr>
<th></th>
<th>Burnout</th>
<th>Stress &amp; related symptoms</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>$B$</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>-.07</td>
<td>.02</td>
</tr>
<tr>
<td>Gender</td>
<td>.28</td>
<td>.07</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JD-R ratio</td>
<td>-3.94</td>
<td>.48</td>
</tr>
<tr>
<td>Controlled motivation ($D_1$)</td>
<td>-.06</td>
<td>.09</td>
</tr>
<tr>
<td>Self-determined motivation ($D_2$)</td>
<td>-.28</td>
<td>.09</td>
</tr>
<tr>
<td><strong>Interactions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JDR x Controlled motivation</td>
<td>.73</td>
<td>.95</td>
</tr>
<tr>
<td>JDR x Self-determined motivation</td>
<td>2.40</td>
<td>.84</td>
</tr>
<tr>
<td><strong>Total $R^2$</strong></td>
<td>.23$^{**}$</td>
<td></td>
</tr>
<tr>
<td>$R^2$ change due to interactions</td>
<td>.013$^*$</td>
<td></td>
</tr>
</tbody>
</table>

Note: $N=500$. Controlled motivation and self-determined motivation are dummy-coded. In both variables, non-volunteers are assigned a value of 0, serving as control group.
Table 3. *Multiple regression for work engagement and positive mental health as outcome variables.*

<table>
<thead>
<tr>
<th></th>
<th>Work engagement</th>
<th>Positive mental health</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>SE</td>
</tr>
<tr>
<td><strong>Control Variables</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age</td>
<td>.10</td>
<td>.02</td>
</tr>
<tr>
<td>Gender</td>
<td>.02</td>
<td>.09</td>
</tr>
<tr>
<td><strong>Main Effects</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JD-R ratio</td>
<td>5.50</td>
<td>.58</td>
</tr>
<tr>
<td>Controlled motivation</td>
<td>.31</td>
<td>.11</td>
</tr>
<tr>
<td>(D1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Self-determined</td>
<td>.48</td>
<td>.11</td>
</tr>
<tr>
<td>motivation (D2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Interactions</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>JDR x Controlled</td>
<td>-.66</td>
<td>1.16</td>
</tr>
<tr>
<td>motivation (D1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>JDR x Self-determined</td>
<td>-1.58</td>
<td>1.02</td>
</tr>
<tr>
<td>motivation (D2)</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total R²</strong></td>
<td>.25**</td>
<td></td>
</tr>
<tr>
<td>R² change due to</td>
<td>n.s.</td>
<td></td>
</tr>
<tr>
<td>interactions</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: N=500. Controlled motivation and self-determined motivation are dummy-coded. In both variables, non-volunteers are assigned a value of 0, serving as control group.*
non-volunteers
volunteers with controlled motivation
volunteers with self-determined motivation

Figure 1. Plot graphs for interaction effects. Outcome variables were standardized for the sake of comparison.
Paper 4

(book chapter)


9.1 Grundsätzliches

9.1.1 Arbeit und Gesundheit


Verpflichtungen. Es ist ebenso bekannt und empirisch gut belegt, dass auch Arbeitslosigkeit krank machen kann (McKee-Ryan et al., 2005); nicht nur weil die Existenzsicherung gefährdet ist, sondern auch weil soziale Beziehungen, die Orientierung an Zielen und eine feste Tagesstruktur wegfallen. In diesem Sinne darf davon ausgegangen werden, dass es nicht die Arbeit an sich ist, die krank macht, sondern die damit verbundenen Arbeitsbedingungen.


9.1.2 Gesundheitsbegriff und psychosoziale Ressourcen


Dieser Beitrag wählt den salutogenetischen Ansatz, um das gesundheitsförderliche Potenzial der Freiwilligenarbeit zu beleuchten. Diese Wahl soll aber nicht in Abrede stellen, dass die Freiwilligenarbeit manchmal auch gesundheitsbelastend sein kann. Als prototypisches Beispiel hierzu dient der Einsatz als Katastrophenhelfer, welcher in manchen Fällen zu posttraumatischen Belastungsstörungen und Depressionen führen kann (Jaffe et al., 2012). Auch in anderen Bereichen wie z. B. der Feuerwehr (Bryant & Harvey, 1996) und im AIDS-Volunteering (Ross, Greenfield & Bennett, 1999) wurde Freiwilligenarbeit als potenzielle Quelle von Stress und Burnout erkannt. In solchen Feldern steht aber die belastende Natur der Aufgabe im Vordergrund, was die sinnstiftenden
Qualitäten überschattet. Ohne Zweifel bedürfen solche Aufgaben einer ausführlichen Rollenklärung, der Festlegung von ressourcenschonenden Einsatzzeiten und intensiver Unterstützung. Im vorliegenden Kapitel wird Freiwilligenarbeit jedoch im weiteren Sinne verstanden und der Fokus auf Gesundheitsförderung gelegt.

9.1.3 Freiwilligenarbeit und Gesundheit: Warum und Wann?

Vor dem Hintergrund des salutogenetischen Ansatzes kann die Annahme formuliert werden, dass Freiwilligenarbeit als schützender, präventiver Faktor wirkt und auf Dauer auch gesundheitsstabilisierende Wirkungen zeigen könnte.

Ein Blick in die Literatur zeigt jedoch, dass das Verhältnis zwischen Freiwilligenarbeit und Gesundheit nicht immer konsistent und eindeutig ist. Die Zusammenhänge sind je nach Untersuchung unterschiedlich stark ausgeprägt. Zusätzlich lässt sich genauso gut eine neue Frage formulieren: Sind es eher gesunde Personen, die sich freiwillig engagieren?


Im Folgenden wird insbesondere Aufmerksamkeit jenen Studien gewidmet, die Daten über mehrere Messzeitpunkte auswerten, also ein längsschnittliches Design aufweisen und zusätzlich auch unterschiedliche Altersstufen in den jeweiligen Stichproben berücksichtigen. Die Gründe hierfür sind methodischer Natur: Nur mit Hilfe von Längsschnittstudien lässt sich klären, ob Freiwilligenarbeit Einfluss auf die Gesundheit hat oder ob gute Gesundheit die Wahrscheinlichkeit für eine Freiwilligenarbeit erhöht und welche Rolle dabei Altersunterschiede spielen.


Erklärungsansätze und kontextuelle Faktoren sind kaum unabhängig voneinander zu betrachten, wie in den nächsten Abschnitten ersichtlich wird. So können z. B. Altersunterschiede durch verschiedene Wirkmechanismen erklärt werden. Die konzeptuelle Abgrenzung ist jedoch wichtig, um die Frage der Kausalität, also der Mechanismen die die Wirkung der Freiwilligenarbeit vermitteln, von der Frage nach den Bedingungen zu trennen, die sich auf die Stärke des Zusammenhangs auswirken. Das Zusammentragen der Befunde soll kritische Punkte hervorheben, neue Forschungswege eröffnen und einige praxisrelevante Handlungsempfehlungen bereitstellen.

9.2 Erklärungsansätze: Warum ist Freiwilligenarbeit gesundheitsförderlich?


Die Warum-Frage zur gesundheitsförderlichen Wirkung der Freiwilligenarbeit lässt sich anhand von Mechanismen wie soziale Eingebundenheit, Sinnstiftung und positive emotionale Befindlichkeit erklären. Dabei wird auch die Rolle als Freiwilliger im Leben einer Person sowie ihre Interaktion mit anderen Lebensdomänen hervorgehoben. Schließlich kann die Wirkung auf physischer Ebene durch die physiologischen Reaktionen erklärt werden, welche die positive Befindlichkeit auslöst, sowie durch die Förderung von gesundheitsbewusstem Verhalten, die ein soziales Netzwerk schafft. Jede dieser Erklärungen stellt zu einem gewissen Grad Bezüge zu den verschiedenen Aspekten des Eudaimonia-Konzepts her, also zu einer Vorstellung von „gelingendem Leben“. Im Folgenden werden empirische Belege für solche Erklärungsmechanismen präsentiert.

9.2.1 Soziale Eingebundenheit, Sinnstiftung und positive emotionale Befindlichkeit

Soziale Eingebundenheit ist vielleicht der wichtigste Wirkmechanismus im Zusammenhang mit psychosozialem Wohlbefinden (s. hierzu auch die Ausführungen und die Befunde zur sozialen Inklusion in ▶ Kap. 1). Der Begriff soziale Gesundheit gewinnt hierbei besondere Relevanz, da angenommen wird, dass sie zu einer besseren psychischen Gesundheit beiträgt. So löst die in der Freiwilligenarbeit erlebte soziale Eingebundenheit positive Emotionen aus, die sich in dauerhafte positive Gemütsverfassung umwandeln können. Dies wiederum verstärkt den sozialen Kontakt und verhindert, dass das Individuum bspw. in soziale Isolation gerät. Theorien der sozialen Integration
(Blau, 1960) sowie die Aktivitätstheorie (Gubrium, 1972) untermauern dieses Bedürfnis nach sozialem Kontakt.


**9.2.2 Lebensrollen**

Obwohl der Ansatz zu Lebensrollen nicht leicht vom Argument der sozialen Eingebundenheit und des „gelungenen Lebens“ zu trennen ist, bildet dieser Forschungszugang einen eigenen Erklärungsrähm für die beobachteten Gesundheitseffekte. Untersucht wird einerseits der Verlust von Lebensrollen wie er bspw. mit dem Alter verbunden ist und andererseits die Wechselwirkung zwischen verschiedenen Lebensrollen, wie sie etwa zwischen Erwerbsarbeit und Familienrolle zu beobachten ist.


9.2.3 Physische Reaktionen und gesundheitsbewusstes Verhalten

Fazit
Freiwilligenarbeit kann sich deshalb gesundheitsförderlich auswirken, weil
- sie dem Individuum ermöglicht, Grundbedürfnisse wie die soziale Eingebundenheit durch selbstbestimmtes, sinnstiftendes Handeln zu erfüllen,
- sie das soziale Netzwerk erweitert, welches den Freiwilligen hilft, sich zu integrieren und damit eine wichtige Quelle von positiven Emotionen und Wohlbefinden darstellt,
- sie einerseits den Verlust von anderen Lebensrollen kompensieren kann und andererseits den Umgang und die Bewältigung in anderen Lebensdomänen positiv beeinflusst,
- sie gesundheitsbewusstes Verhalten fördern kann,
- sie mit positiver psychischer Befindlichkeit einhergeht und somit zum Ausgleich von physischen Regulationsprozessen führt.

9.3 Kontextuelle Faktoren: Wann ist Freiwilligenarbeit gesundheitsförderlich?
Im Folgenden sollen die kontextuellen, demographischen und psychosozialen Faktoren hervorgehoben werden, welche den positiven Effekt von Freiwilligenarbeit auf Gesundheit verstärken bzw. hemmen. Daraus sollen einige praktische Empfehlungen für die Rekrutierung, Einsatzgestaltung und Förderungsmodi der Freiwilligkeit abgeleitet werden.

9.3.1 Alter der Freiwilligen
Der unbestritten wichtigste und forschungsleitende Faktor ist das Alter. Es rangiert deshalb an erster Stelle, da es oft auch in Interaktion mit anderen Faktoren auftritt. Die allgemeine Aussage der Empirie lautet: Ältere Menschen profitieren in Hinblick auf die individuelle Gesundheit stärker als Jüngere von ihrer Freiwilligenarbeit (Grimm, Spring & Dietz, 2007). Forscher versuchen diese altersbezogene Diskrepanz über zwei Wege zu erklären. Die erste Erklärung betrachtet die Motive als ausschlaggebenden Faktor und untersucht die Funktion, welche die Tätigkeit für die handelnde Person erfüllt bzw. erfüllen sollte. Bei jüngeren Freiwilligen kann das Engagement oft mit Pflichten in anderen Domänen verbunden sein (z. B. Kindererziehung, Einstieg in die Arbeitswelt), was impliziert, dass die Freiwilligenarbeit mitunter als Pflicht empfunden wird. Bei den Älteren hingegen ist die Wahl zum Engagement dem eigenen Ermessen überlassen, was von einer starken intrinsischen Überzeugung ausgehen lässt. Die zweite Erklärung bietet eine statistische Begründung: Jüngere Erwachsene weisen weniger Gesundheitsvarianz auf, was die Messung von quantifizierbaren Veränderungen substantiell erschwert (Grimm et al, 2007).


Diese Auswahl an Studien veranschaulicht das empirisch belegte altersbezogene Muster. Hieraus lässt sich schließen, dass das Wiederbeleben bzw. die Aufrechterhaltung von sozialen Kontakten im höheren Lebensalter oder bspw. nach dem Ausscheiden aus dem Erwerbsleben ein wichtiger Faktor zur Erklärung der positiven gesundheitlichen Entwicklung sein kann. Darüber hinaus deuten die Ergebnisse auf potentielle Selektionsprozesse hin; wir kommen zum Schluss des Kapitels hierauf zurück.

9.3.2 Die Einsatzdauer des freiwilligen Engagements


9.3.3 Soziale Integration der Freiwilligen

Soziale Kontakte und Zugehörigkeitsgefühle werden von der Freiwilligenarbeit oft gefördert, was der individuellen Gesundheit zugutekommt. Soziale Integration kann aber auch als a priori vorhanden,

9.3.4 Physische und psychische Ressourcen

Wie bei der sozialen Integration, können auch physische und psychische Ressourcen als a priori gegeben verstanden werden. So wird Gesundheit nicht nur als Ergebnis, sondern auch als kontextueller Einflussfaktor in der Forschung gewertet. Als Beispiel dient eine Studie von Okun et al. (2011). Mit über 4000 Teilnehmern zwischen 18 und 96 Jahren untersuchten die Autoren, ob der Zusammenhang zwischen Freiwilligenarbeit, seelische Widerstandsähigkeit (Resilienz) und positive emotionale Befindlichkeit durch das Alter und die Anzahl an chronischen Krankheiten einer Person beeinflusst wird. Im Gegensatz zu anderen Studien konnten die Autoren keine Interaktion (▶ Glossar) zwischen dem Freiwilligkeitsstatus (ja/nein) und dem Alter nachweisen. Es gab jedoch einen signifikanten Interaktionseffekt zwischen dem Freiwilligkeitsstatus und der Anzahl an chronischen Krankheiten: Je mehr chronische Krankheiten eine Person berichtete - und damit über weniger physische Ressourcen verfügte -, desto stärker war die Auswirkung von Freiwilligenarbeit auf positive emotionale Befindlichkeit und Resilienz. Der Befund, dass Freiwilligenarbeit vor allem bei Menschen mit chronischen Krankheiten besonders positiv wirkt, spricht wieder für einen Kompensationseffekt in dem Sinne, dass Freiwilligenarbeit dabei hilft, gesundheitliche Einschränkungen abzufedern.

9.3.5 Motive und ihre gesundheitsförderlichen Auswirkungen

Eine der Kernprämisse der Selbstbestimmungstheorie besagt, dass eine Person, die aus eigener, selbstbestimmter Überzeugung agiert, ihr Handeln auch als sinnvoll wahrnimmt, was mit positiver Stimmung und förderlichen Nebenwirkungen einhergeht (Ryan & Deci, 2000). Daher ist es schlüssig, dass die Beweggründe einer Person für freiwilliges Engagement, ausschlaggebend für deren Wirkung auf Gesundheit und Wohlbefinden sind. Es gibt Studien, die zeigen, dass es von der Art der Motive abhängt, ob Freiwilligenarbeit gesund erhält. Interessanterweise entsprechen die „gesunden“ Motive, genau jenen, die mit dem Erleben von Selbstbestimmung assoziiert werden können (▶ Kap. 4).


Eine Studie von Konrath et al. (2012) untersuchte den Zusammenhang zwischen Freiwilligkeit, Motiven und Mortalitätsrisiko. Anhand von Daten der Wisconsin Longitudinal Study und nach sorgfältiger Kontrolle von potenziellen Störfaktoren, stellten die Forscherinnen fest, dass gemeinwohlorientierte Freiwillige 4 Jahre später höhere Überlebenschancen hatten, als jene mit selbstorientierten Beweggründen. Freiwillige mit solchen Motiven wiesen ein Mortalitätsrisiko vergleichbar mit jenem von Nicht-Freiwilligen auf. Die Autorinnen argumentieren: „More other-oriented motives for volunteering may be linked to improve health because these motives may help to promote a sense of deep and lasting well-being originating from service to something bigger than the self“ (Konrath et al, 2012, S. 88).

Zum Schluss konnten Weinstein und Ryan (2010) im Rahmen der Selbstbestimmungstheorie und anhand einer Reihe von experimentellen Studien zeigen, dass sich autonome (selbstbestimmte
**Motivation**, d. h. Motivation, die auf eigenem Interesse und persönlichen Werten beruht, wegen des gesteigerten Gefühls der Bedürfnisbefriedigung, sich positiv auf das Wohlbefinden von Freiwilligen und den Empfängern der Leistung auswirkt. Dieser Effekt trat nicht auf, wenn **kontrollierte Motivation** vorlag; d. h. wenn Freiwillige sich von außen (aber auch von sich aus) dazu gezwungen fühlten.

### Conclusion Start

**Fazit**

Der Kontext hat einen schwerwiegenden Einfluss auf den Zusammenhang zwischen Freiwilligenarbeit und Gesundheit. Den empirischen Befunden zufolge kann festgehalten werden, dass Freiwilligenarbeit sich dann eher gesundheitsförderlich auswirkt, wenn

- eine Person sich in einer Lebensphase befindet, in welcher andere Lebensrollen abzuklingen anfangen, wie etwa im Pensionsalter. Dann sind selbstbestimmte Motiven am stärksten ausgeprägt und die sozialen Kontakte können aufrecht erhalten werden.
- das Engagement in einem individuell angemessenen Ausmaß geleistet wird,
- zum Beginn des Engagements soziale, physische oder psychische Ressourcen eher fehlen bzw. in geringem Ausmaß vorhanden sind und die Freiwilligenarbeit eine kompensatorische Funktion übernehmen kann,
- das Individuum intrinsisch bzw. aus eigener Überzeugung, nicht jedoch auf Grund von wahrgenommenem Druck oder Karrierezwecken motiviert ist.

### Conclusion Stop

### 9.4 Eigene Forschung

Der Fokus unserer Forschungsgruppe liegt auf der Freiwilligenarbeit als Schnittstelle zwischen Privatleben und Erwerbsarbeit. Dies stellt nicht nur eine Wende bzgl. der dominierenden gerontologischen Perspektive dar, sondern auch den Versuch, die Implikationen für den größten Teil des Freiwilligensektors zu erhellen. Ähnlich wie in anderen Ländern sind die Mehrheit der Freiwilligen in der Schweiz auch erwerbstätig und häufig sogar in Vollzeit (Stadelmann-Steffen et al., 2010).


Zeit zu geben gibt uns Zeit: Von Wahrnehmung zu Gesundheit


9.5 Diskussion und Ausblick

Wir kehren nun auf einige offene Fragen zurück und versuchen anhand der zusammengetragenen Empirie Antworten zu formulieren und Schlussfolgerungen zu ziehen. Schließlich sollten einige praktische Handlungsempfehlungen sowie neue Forschungswege vorgeschlagen, um die positive Spirale der Freiwilligenarbeit weiter zu analysieren und optimieren.

9.5.1 Gesundheitsförderung oder Selektionsprozess?


Auf der Seite der NPOs gibt es immer eine offene Haltung gegenüber potenziellen Freiwilligen, solange die Ziele und Zwecke der Organisation nicht in Gefahr geraten. Im Rekrutierungsprozess könnten sich jedoch gewisse Anforderungsprofile herausbilden, welche meist dem Profil einer gesunden, sozial integrierten Person entspricht, was durchaus unbewusst erfolgen kann. Ein Beispiel hierfür ist die Zunahme an Corporate Volunteering in den letzten Jahren (Wehner & Gentile, 2012). Durch die Kooperation mit Unternehmen haben viele NPOs leichten Zugang zu potenziellen Freiwilligen. Dass diese oft ein einheitliches, vorteilhaftes Ausbildungs-, Sozialisierungs- und Gesundheitsprofil aufweisen, stellt an sich kein Problem dar. Interessant für den Zusammenhang von Freiwilligkeit und Gesundheit ist es aber, dass es in jeder Gesellschaft eine erhebliche Anzahl an potentiellen Freiwilligen gibt, welche über wenig Ressourcen verfügen aber dennoch am stärksten von Freiwilligenarbeit profitieren würden. Als Beispiel hierfür sei die Gruppe der Migranten oder auch der Arbeitslosen genannt. Es gibt in der Schweiz einen erheblichen Unterschied im Bezug auf die Engagementquote zwischen Schweizer Staatsangehörigen und Einwohnern aus anderen...
Herkunftsländern, wobei letztere stark unterrepräsentiert sind (Stadelmann-Steffen et al., 2010). Das gleiche Muster zeichnet sich auch in anderen Ländern ab und dehnt sich bis zu Minderheiten im Allgemeinen aus, wie der tiefere Anteil von freiwilligen Afro-Amerikanern in den USA zeigt (Bureau of Labor Statistics, 2014).

Das Wechselspiel zwischen Freiwilligenarbeit, Gesundheit und Minderheitenstatus hat bisher in der Forschung kaum Aufmerksamkeit bekommen. Einige Zusammenhänge dieser Konstellation sind trotzdem bekannt; wie z. B. dass Freiwilligenarbeit ein Weg zur sozialen Integration von Migranten sein kann (Handy & Greenspan, 2009), und dass Migranten und ethnische Minderheiten in nationalen sowie internationalen Studien einen schlechteren Gesundheitszustand im Vergleich zur Mehrheitsbevölkerung aufweisen (Bundesamt für Gesundheit, 2014; Office of Minority Health and Health Disparities (OMHD), 2007). Daraus folgt, dass durch den Mechanismus der sozialen Integration in der Freiwilligenarbeit, die psychosoziale Gesundheit von Minderheiten gefördert werden kann. Ähnlich ist die Situation bei Langzeitarbeitslosen, welche in den Freiwilligenstatistiken grundsätzlich unterrepräsentiert sind (Stadelmann-Steffen et al., 2010), allerdings durch gemeinnützige Tätigkeiten erhöhte soziale Unterstützung und Integration erfahren (Rothländer, 2007). Unter den Langzeitarbeitslosen befinden sich auch Personen, die an seelischen Erkrankungen leiden oder gelitten haben und denen die Wiedereingliederung in die Gesellschaft durch die Freiwilligenarbeit gelingen kann (s. Clark, 2003).

Die Debatte um die Gründe, weshalb gewisse Bevölkerungsgruppen sich mehr freiwillig engagieren als andere sprengt den Rahmen dieses Kapitels. Es liegt aber nahe, dass Ressourcen in der Freiwilligenarbeit nicht nur gefördert, sondern, wenn auch unbewusst, vorausgesetzt werden.

9.5.2 Freiwilligkeit: Komplementierung oder Kompensation?


9.5.3 Handlungsempfehlungen für die Praxis

Diversifizierung der Zielgruppen im Rekrutierungsprozess

Aus der Gesamtheit der in diesem Kapitel vorgestellten Literatur können das bidirektionale Verhältnis zwischen Freiwilligenarbeit und Gesundheit sowie die Kompensationsfunktion als gesicherte Befunde betrachtet werden. Dass sich zwar gesunde, ressourcenreiche Menschen stärker freiwillig engagieren, jedoch Personen mit weniger Ressourcen über einen kompensatorischen Wirkmechanismus mehr gesundheitliche Vorteile erlangen könnten, stellt zum einen eine Herausforderung für die Forschung dar: Wie können gesundheitliche Wirkungen erforscht werden, wenn sich die freiwillig Engagierten eher am gesunden Ende des Spektrums befinden? Zum anderen muss kritisch gefragt werden, ob es sich im Bereich des Bürgerschaftlichen Engagements um ein geschlossenes System handelt, in dem ressourcenschwache Bevölkerungsgruppen ausgeschlossen werden, auch wenn dies ungewollt geschieht. Indem NPO und lokale Regierungen sich stärker für die Rekrutierung von solchen Gruppen
eingesetzt (Migranten, Arbeitslose), würden sie nicht nur neue Freiwillige gewinnen, sie würden dadurch auch eine wichtige Quelle von sozialer Unterstützung, Integration und Sinnenerzeugung anbieten, welche als kritische gesundheitsförderliche Ressourcen für diese Gruppen gelten. Dabei sollte allerdings vermieden werden, dass die Freiwilligenarbeit zu einem sozialen „Auffangbecken“ von gesellschaftlich benachteiligten Gruppen wird, sondern weiterhin die Teilnahme am gesellschaftlichen Leben und am Arbeitsmarkt unterstützt und ermöglicht wird. In diesem Zusammenhang findet das Peer-Volunteering besonders gute Anwendung. Hierbei erbringen Freiwillige Leistungen für Menschen, die sich in Lebenssituationen befinden, in denen sich die Freiwilligen selbst ebenfalls befinden bzw. befunden haben. Das erhöhte Einfühlungsvermögen wirkt sich positiv in beide Richtungen aus, d.h. sowohl für die Freiwilligen als auch für die Empfänger.

Planung angemessener Einsatzdauer
Die Befunde zur Einsatzdauer bzw. -frequenz lassen keine rezeptartige Empfehlung zu. In der Regel gilt jedoch: zu viel Freiwilligenarbeit kann den positiven Effekt auf die Gesundheit verpuffen lassen oder sich sogar gesundheitsschädlich auswirken. Dies ist vor allem der Fall, wenn exzessives Engagement in Konflikt mit anderen Lebensdomänen gerät ( Kap. 10). Grundsätzlich ist zu empfehlen, die Einsatzdauer und eine evtl. Obergrenze (wie dies bspw. im Hospizbereich üblich ist) situationsabhängig und angepasst an die individuellen Lebensumstände der freiwillig engagierten Person festzulegen. Betrachtet man ein freiwilliges Engagement über mehrere Jahre hinweg, so zeigt sich eine gesundheitsförderliche Wirkung eher bei einer gewissen Regelmäßigkeit des Einsatzes. Auf Grund dieser Befunde wäre es interessant zu prüfen, was dies für eventorientierte, also häufig einmalige freiwilligen Engagements ( Kap. 13) bedeutet; bleiben hier u.U. gesundheitliche Effekte aus? Der aktuelle Forschungsstand lässt zumindest keine Handlungsempfehlungen bezüglich der neuen Formen der Freiwilligkeit und ihren Gesundheitsimplikationen zu.

Minimierung von instrumentellen Zwecken

9.5.4 Neue Forschungswege
In der Forschung kristallisieren sich folgende Fragen heraus, welche über die Grenzen der Arbeitspsychologie und Arbeitsmedizin hinausgehen und Interdisziplinarität verlangen:

Selbstselektion und implizite Kognitionen
Während der soziale Selektionsprozess durch integrative institutionelle Maßnahmen einigermaßen leicht zu überwinden ist, bleibt die Selbstselektion seitens des Individuums ein unerforschtes, herausforderndes Unterfangen. Es darf vermutet werden, dass implizite, nämlich unbewusste (Selbst-)Wahrnehmungen eine Rolle spielen, welche das Individuum davon abhalten sich zu engagieren. Die Forschung der impliziten sozialen Kognition hat mittlerweile eine lange Tradition der Erklärung menschlichen Verhaltens (Greenwald & Banaji, 1995), wobei die impliziten Determinanten des prosozialen Verhaltens kaum untersucht wurden.
Ressourcen-Modell

Verankerung des Begriffs „soziale Gesundheit“

Studien anderer Kulturen

Berücksichtigung der erwerbstätigen Bevölkerung

9.6 Fazit
Ziel dieses Kapitels war es, die gesundheitsförderliche Wirkung der Freiwilligenarbeit aus der salutogenetischen Perspektive zu erläutern. Dabei wurde die soziale Facette des Gesundheitsbegriffs hervorgehoben, welche den oft dominanteren physischen und psychischen Aspekten unterliegt.

9.7 Literatur


