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Intrinsic need satisfaction and the job attitudes of volunteers versus employees working in a charitable volunteer organization

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This research examines how intrinsic need satisfaction during volunteer work relates to the job attitudes of volunteers (Deci & Ryan, 2000; Ryan & Deci, 2000). We distinguish between autonomy, competence, and relatedness needs, and predict these to have distinct effects on volunteers' job satisfaction and intent to remain with the volunteer organization. We then compare volunteer workers to a matched sample of paid employees (performing identical tasks within the same organization) in the way in which they derive their job satisfaction and intent to remain from satisfaction of these three types of needs. As predicted, path analysis ($N = 105$) shows that satisfaction of autonomy needs and relatedness needs are positively related to the intent to remain a volunteer with the volunteer organization, and this relation is mediated by satisfaction with the volunteer job. The matched samples comparison further reveals that whereas the job satisfaction and intent to remain of paid employees is most clearly predicted by satisfaction of autonomy needs, satisfaction of relatedness needs is the primary predictor of job satisfaction and intent to remain among volunteers. Theoretical and practical implications, as well as avenues for further research, are discussed.

While the job satisfaction of paid workers has been extensively addressed (for an overview see Judge, Thoresen, Bono, & Patton, 2001), we know relatively little about the job satisfaction of volunteers and its predictors (Gagne & Deci, 2005). At the same time, job satisfaction as a result of intrinsic work motivation is likely to be important in fostering a bond between an individual volunteer and his or her charitable volunteer organization (contributing to the intent to remain a volunteer), especially when other more formal means of tying the individual to the organization (e.g. through contractual obligations or financial dependence) are lacking (Pearce, 1993). Indeed, it has been noted that there are a number of relevant differences between volunteers and paid employees and the organizational contexts they work in (Johns, 2006; Pearce, 1993). As a result, various aspects that are known to play a role in the job attitudes of paid

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employees (such as pay, security, advancement opportunities) do not necessarily apply in the case of volunteer workers (see also Brief, 1998). This is why we specifically address the job attitudes of volunteers in the present research.

The contribution of this research is twofold. First, whereas intrinsic need satisfaction tends to be examined as a single global construct (Deci & Ryan, 2000; Ryan & Deci, 2000), we distinguish between autonomy, competence, and relatedness needs, to assess how satisfaction of each of these distinct needs contributes to volunteers' job satisfaction as a predictor of the intent to remain a volunteer with the charitable volunteer organization. Additionally, we examine whether the effects observed are unique for volunteers, by comparing their responses with a matched sample of paid employees, performing identical tasks in the same organization. This extends previous research on similarities and differences between volunteers and paid workers (e.g. Liao-Troth, 2001; Netting, Nelson, Borders, & Huber, 2004; Pearce, 1983, 1993;), by addressing effects of organizational context (Johns, 2006).

Intrinsic need satisfaction as a predictor of volunteers' job satisfaction and intent to remain

Charitable organizations depend on the work of volunteers to achieve their mission. At the same time, because the primary mission of these organizations is to serve their clientele, the financial means or other resources available to reward, motivate, and retain volunteer workers are limited (e.g. Boezeman & Ellemers, 2007; Handy, 1988; Pearce, 1993), or – as in the case of the organization examined here – even absent. Hence, in these types of organizations it is of vital importance to address and maintain job satisfaction among volunteers (see also Clary *et al.*, 1998; Galindo-Kuhn & Guzley, 2001). Job satisfaction refers to an attitude concerning one's work and its aspects (Griffin & Bateman, 1986). For instance, Locke (1976) defined job satisfaction as a pleasurable or positive emotional state resulting from the appraisal of one's job or job experiences. Despite its relevance to theory development concerning job attitudes and the operation of volunteer organizations, job satisfaction has only received minor attention in the case of volunteer work (Galindo-Kuhn & Guzley, 2001). We build on self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000), to examine whether the satisfaction of intrinsic needs contributes to the job attitudes of volunteers. In doing this, we follow Gagne and Deci (2005), who reasoned that the job attitudes of individuals are positively affected when their work climate facilitates intrinsic work motivation through the satisfaction of autonomy, competence, and relatedness needs on the job.

The need for *autonomy* refers to the need of having choice and self-control in one's own actions, the need for *competence* refers to the need to experience that one is able to successfully carry out tasks and meet performance standards, and the need for *relatedness* refers to the need to develop and maintain secure and respectful relationships with others (Baard *et al.*, 2004; Deci *et al.*, 2001; Deci & Ryan, 2000; Gagne & Deci, 2005; Ryan & Deci, 2000). In self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) it is postulated that these needs are fundamentally important to individuals, and that conditions that facilitate the satisfaction of these needs, for instance in one's job (Gagne & Deci, 2005), promote intrinsic motivation and its subsequent positive outcomes. Research for instance has shown that global intrinsic need satisfaction on the job (with intrinsic motivation as an underlying psychological mechanism) contributes positively to performance evaluations, psychological adjustment, and work engagement in paid work (e.g. Baard *et al.*, 2004; Deci *et al.*, 2001).

Additionally, there is empirical evidence to suggest that global intrinsic need satisfaction relates to the work engagement of volunteers (Gagne, 2003).

Importantly, however, this previous work has addressed satisfaction of autonomy, competence, and relatedness needs on the job as indicators of a single overall construct (see Baard *et al.*, 2004; Deci *et al.*, 2004; Gagne, 2003). Alternatively, only one of these needs was examined as a source of work motivation among volunteers (i.e. the need for autonomy; Millette & Gagne, 2008). We argue that it is important to distinguish between satisfaction of autonomy, competence and relatedness needs during volunteer work, as these are likely to have differential effects on volunteers' job satisfaction as well as on their intentions of remaining a volunteer with the volunteer organization. Further insight into the specific effects of each of these needs is theoretically relevant, as it advances insight into the psychological processes that play a role in the work attitudes of volunteers. Additionally, such more specific knowledge of these different types of needs and their effects is relevant for volunteer organizations that aim to enhance the satisfaction of their volunteer workers by addressing their intrinsic needs. In the present research we will therefore examine satisfaction of autonomy, competence, and relatedness needs as *separate factors* (instead of indicators of a single factor representing intrinsic need satisfaction as an overall construct, see Baard *et al.*, 2004; Deci *et al.*, 2004; Gagne, 2003) and compare their *distinct effects* on the job attitudes of volunteers.

Satisfaction of autonomy needs on the volunteer job

In self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) it is postulated that one's intrinsic motivation with regard to a certain activity is promoted when the social environment facilitates the experience of autonomy during that activity. Volunteering on behalf of a volunteer organization, its mission, and its clientele is by definition a self-chosen activity, indeed, volunteer work is non-obligatory and volunteers can quit their jobs at will (e.g. Meijs, 1997; Pearce, 1993). Furthermore, the organizational cultures of volunteer organizations and the context in which they work emphasize independence, autonomy, and egalitarianism as important values that characterize the work-settings of volunteers (Pearce, 1993; see also Johns, 2006). Therefore, and in line with self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000), we argue that to the extent that the organizational context in which volunteers work facilitates the satisfaction of autonomy needs, this will contribute to satisfaction with the volunteer job and subsequently to the intent to remain a volunteer with this organization. We consider job satisfaction a relevant predictor of the intent to remain, because measures reflecting satisfaction with the volunteer job have been found to relate positively to the intent to remain (Galindo-Kuhn & Guzley, 2001). We thus hypothesize:

Hypothesis 1: Satisfaction of autonomy needs on the volunteer job contributes directly and positively to volunteers' job satisfaction (Hypothesis 1a), and indirectly and positively to volunteers' intentions of remaining a volunteer with the volunteer organization through job satisfaction (Hypothesis 1b).

Satisfaction of relatedness needs on the volunteer job

In self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) it is further postulated that when one's social environment provides for the basic need of relatedness during an intrinsically interesting activity one's intrinsic motivation with

regard to that activity will be enhanced. Relatedness is particularly relevant to the work motivation of volunteers. In different studies social relationships consistently emerge as a factor of importance to the motivation to volunteer (e.g. Boezeman & Ellemers, 2007; Clary *et al.*, 1998; Cnaan & Goldberg-Glen, 1991; Galindo-Kuhn & Guzley, 2001). For instance, Galindo-Kuhn and Guzley (2001) found that social integration within the volunteer organization enhances volunteers' intent to remain a volunteer with the volunteer organization. Likewise, Boezeman and Ellemers (2007, 2008a) observed that the affordance of organizational support predicted the commitment and intention to stay among occasional volunteers. Furthermore, the anticipation of such support also proved to be an important factor in the attraction and recruitment of non-volunteers (Boezeman & Ellemers, 2008b). Accordingly we argue that because relatedness needs are relevant to the intrinsic work motivation of volunteers, the satisfaction of relatedness needs predicts their job satisfaction and intentions to remain. While previous research has established a covariation between the importance of social relationships and intentions to remain a volunteer (e.g. Galindo-Kuhn & Guzley, 2001; Millette & Gagne, 2008) we extend this work by examining whether satisfaction with the volunteer job mediates the relation between satisfaction of relatedness needs on the one hand and intentions of remaining a volunteer on the other. We predict:

Hypothesis 2: Satisfaction of relatedness needs on the volunteer job contributes directly and positively to volunteers' job satisfaction (Hypothesis 2a), and shows an indirect and positive relation to volunteers' intentions of remaining a volunteer with the volunteer organization through job satisfaction (Hypothesis 2b).

Satisfaction of competence needs on the volunteer job

In addition to the satisfaction of autonomy and relatedness needs, the satisfaction of competence needs is also regarded a potential facilitator of intrinsic motivation (Deci & Ryan, 2000; Ryan & Deci, 2000). That is, in self-determination theory (Deci & Ryan, 2000; Ryan & Deci, 2000) it is postulated that when one's social environment provides for the basic need of competence during an intrinsically interesting activity one's intrinsic motivation with regard to that activity will be enhanced.

While feelings of competence are generally seen as a central source of individual value and (self-)esteem (Kanfer, 1994; McClelland, 1987), we propose that satisfaction of competence needs is relatively less important than satisfaction of autonomy or relatedness needs as a predictor of volunteers' intent to remain with the volunteer organization. That is, volunteer work often relies on the number of people that are willing to participate, not necessarily on their specific competence (Farmer & Fedor, 2001). Indeed, in volunteer work performance standards are often minimal (Farmer & Fedor, 1999; 2001; Pearce, 1993), formal job-descriptions referring to job standards or evaluation criteria are vague or absent (Pearce, 1993), and performance evaluations are infrequent if even present (Farmer & Fedor, 1999). Furthermore, volunteer work is often a part-time leisure activity (Pearce, 1993) that does not require specific skills one can master, making it less likely that this type of work informs self-evaluations in terms of competence. Thus, because volunteers work in an organizational context where non-skilled work prevails and where formal indicators of competence do not really apply, this type of work provides relatively few explicit cues of competence. As a result, it is less likely that volunteers working under these circumstances see the satisfaction of competence needs as a primary source of their job satisfaction and intent to remain. This is why we

predict that – compared to the satisfaction of autonomy and relatedness needs – the satisfaction of competence needs is relatively less important as a source of intrinsic motivation among volunteer workers. We will test this prediction by examining whether or not the fulfilment of competence needs contributes to volunteers' job satisfaction and the intent to remain a volunteer with the volunteer organization *above and beyond* the effects of satisfaction of autonomy and relatedness needs. This is not to say that experiencing competence is unimportant, or irrelevant to the job satisfaction of volunteers. Nevertheless, we argue that satisfaction of competence needs emerges as a less important source of job satisfaction and intent to remain among volunteers compared to the satisfaction of autonomy and relatedness needs, when these distinct types of needs are considered in an organizational context where formal indicators of competence are virtually absent. Accordingly, we predict:

Hypothesis 3: Among volunteers satisfaction of competence needs will have no significant added value in predicting job satisfaction and intent to remain a volunteer above and beyond satisfaction of autonomy needs and relatedness needs.

Comparing volunteers with paid employees

When aiming to understand and predict organizational behaviour, the context in which people work needs to be taken into account (Johns, 2006). This is why the second aim of the present research is to compare volunteers with a matched sample of paid employees, in order to assess whether the effects observed are unique to the job attitudes of volunteers. Indeed, even though paid employees and volunteer workers can share certain similarities, in particular when they work in the same charitable organization (Light, 2002), paid employees still work in a fundamentally different context than volunteer workers (Gidron, 1983; Liao-Troth, 2001; Pearce, 1983, 1993). While the well-being and performance of paid employees as well as volunteers is likely to depend on relevant job attitudes such as work satisfaction (e.g. Pearce, 1993), there also are important differences between volunteers and paid workers. For instance, when a paid workforce is active in a charitable volunteer organization, such a workforce usually carries out tasks for which volunteers are unqualified (Meijs, 1997).

Previous attempts to compare paid employees with volunteer workers have suffered from these differences (e.g. Laczó & Hanisch, 1999; Liao-Troth, 2001; Pearce, 1983, 1993; see also Netting, Nelson, Borders, & Huber, 2004 for an overview). This makes it difficult to establish whether observed differences result from the specific *context* in which these two types of workers perform their jobs (i.e. as volunteers or as paid employees, see also Johns, 2006), or should be attributed to the different type of *job* they do (e.g. unskilled vs. skilled). Because our current aim is to examine the relative importance of different types of need satisfaction for the job attitudes of volunteers, and to establish whether or not this is different from paid employees, we want to rule out any effects of job type in making this comparison. This is why we have searched for an organization in which volunteers and paid employees perform identical tasks. Comparison of these matched samples allows us to establish whether the effects of different types of need satisfaction are unique for volunteer workers, or also emerge as predictors of job satisfaction and intent to remain among paid employees.

Because social relationships have been found a consistent factor of central importance to the motivation to volunteer (see Boezeman & Ellemers, 2007; Clary *et al.*,

1998; Cnaan & Goldberg-Glen, 1991; Galindo-Kuhn & Guzley, 2001), we propose that volunteers are likely to consider satisfaction of relatedness needs on the job more relevant to their job satisfaction and intent to remain than satisfaction of other needs. We think this primary importance of relatedness needs is unique for volunteers. That is, in the case of paid employees other types of needs are likely to be more relevant as predictors of their job satisfaction and the intent to remain.

In the case of paid employees, we propose that satisfaction of autonomy needs is more important than satisfaction of relatedness needs. We have argued above that satisfaction of autonomy needs should be an important source of intrinsic motivation among volunteers. However, it is generally assumed that the amount of autonomy in one's work, indicating one's freedom of action in the work environment is of relevance across different organizational contexts (Johns, 2006). Volunteer work tends to be characterized by a relative sense of autonomy (e.g. because it is non-obligatory), making this a salient domain of need satisfaction in this type of work. However, the more formal restrictions under which paid employees work - in particular when they work side-by-side with volunteers in a charitable volunteer organization - may make them place equal or even more value on satisfaction of autonomy needs in their work than do volunteers. That is, because the (lack of) autonomy afforded is likely to be more of an issue for paid employees than for volunteer workers, we propose that satisfaction of autonomy needs is the primary factor predicting the job attitudes of paid employees. This results in the following predictions:

Hypothesis 4: The job satisfaction and intentions to remain with the organization of paid employees are *primarily* and positively affected by the satisfaction of autonomy needs on the job (4a), in contrast, the job satisfaction and intentions to remain with the organization of volunteers are *primarily* and positively affected by the satisfaction of relatedness needs on the job (4b).

We will test Hypothesis 4 by comparing the volunteers examined in this study with a matched sample of paid employees (working in the same organization, serving the same clientele, performing the same type of job, no formal hierarchical differences between worker types) to control for influences that tend to obscure results in this type of comparative research (see Liao-Troth, 2001).

Method

Participants

The organization that hosted this research was a charitable volunteer organization that organizes and facilitates leisure activities for the mentally handicapped. Participants included volunteers as well as paid employees (working side-by-side with volunteers in the volunteer organization) that served in groups of coordinators/supervisors during the leisure activities for the mentally handicapped.¹ The sample of paid employees was included to examine Hypothesis 4.

¹ The sample of volunteers consists of participants working in three subdivisions of the volunteer organization. Preliminary analyses confirmed that volunteers across subdivisions worked in the same type of job, and served the same clientele. Additionally, we checked that volunteers in the three subdivisions were comparable in terms of their relevant background characteristics, and showed similar mean scores, standard deviations and correlations between model variables.

Volunteer sample

One hundred and twelve questionnaires were returned by regular mail by volunteers (response rate = 29.28%, which is representative of previous survey research among volunteers, see for instance Tidwell, 2005), and 105 of these were complete and could be used for further analysis ($N = 105$). The respondents' mean age was 44.6 ($SD = 14.5$), 65.7% were women, 76.2% held paid jobs besides working as a volunteer, and 32.4% also worked for other organizations as a volunteer. This sample is representative of volunteer workers in general, for instance because volunteer work in volunteer organizations is commonly carried out by a majority of female volunteers (see for instance Boezeman & Ellemers, 2007, 2008a; Greenslade & White, 2005; Penner & Finkelstein, 1998; Tidwell, 2005) and because it is common that volunteers work for multiple organizations (Cnaan & Cascio, 1999).

Paid employee sample

From the total amount of 50 paid workers in this organization, 27 questionnaires were returned (response rate = 54%) and 25 could be used for further analysis ($N = 25$). The employees received pay based on the fact that they had completed formal training and held the associated credentials that were relevant to the classes that they supervised. The paid employees performed jobs identical to the volunteers, worked in the same organization as the volunteers, served the same clientele as the volunteers, and there were no formal hierarchical differences between the volunteers and the employees. In terms of background characteristics, this sample was roughly comparable to the sample of volunteer workers described above. The respondents' mean age was 38.3 ($SD = 11.9$), 92% were women, and 88% also worked for other organizations as a paid employee.

Procedure

All volunteers and paid employees (performing the same tasks as the volunteers) working in the volunteer organization as coordinators/supervisors during the leisure activities for the mentally handicapped were mailed a survey with an accompanying letter. In the accompanying letter the volunteers and paid employees were asked for their participation by the volunteer organization. The researchers indicated that the volunteer organization was interested in their opinion with regard to its human resource management policy, and guaranteed anonymity as well as confidential treatment of the information that they provided. The volunteers and paid employees participating in the study sent their surveys in a self-addressed envelope directly to the researchers.

Measures

All measures consisted of validated scales that were translated into Dutch, see Table 1 for all items used. In the questionnaire distributed among the paid workers the words 'volunteer' and 'volunteer work' were substituted by 'employee' and 'work' respectively. Responses were recorded on 7-point scales (1 = *totally disagree*; 7 = *totally agree*), unless otherwise stated.

The *satisfaction of autonomy needs* (3 items; volunteers: $\alpha = .68$; paid workers: $\alpha = .76$), the *satisfaction of competence needs* (3 items; volunteers: $\alpha = .74$; paid workers: $\alpha = .86$), and the *satisfaction of relatedness needs* (3 items; volunteers:

Table 1. Standardized parameter estimates of factor loadings, R^2 's, and item means Study I

Questionnaire Items	5-Factor measurement model		
	Factor loadings	R^2	Item means
<i>Satisfaction of autonomy needs</i>			
1) 'I feel like I can make a lot of input to deciding how my volunteer job gets done'	.63	.40	5.25
2) 'I am free to express my ideas and opinions on the volunteer job'	.85	.73	5.86
3) 'There is a lot of opportunity for me to decide for myself how to go about my volunteer work'	.56	.31	5.30
<i>Satisfaction of competence needs</i>			
1) 'I feel very competent when I am at my volunteer work'	.63	.40	5.82
2) 'On my volunteer job I get a lot of chance to show how capable I am'	.59	.35	5.00
3) 'When I am working at (organization) I often feel very capable'	.89	.79	5.50
<i>Satisfaction of relatedness needs</i>			
1) 'At (organization), I really like the people I work with'	.82	.68	5.86
2) 'I get along with people at my volunteer work'	.94	.88	5.91
3) 'People at my volunteer work are pretty friendly towards me'	.79	.63	6.04
<i>Job satisfaction</i>			
1) 'All in all, I am satisfied with my volunteer job at (organization)'	.95	.90	5.96
2) 'In general, I like my volunteer job at (organization)'	.88	.78	6.12
3) 'In general, I like working as a volunteer at (organization)'	.80	.64	5.98
<i>Intent to remain</i>			
1) 'How likely is it that you will quit your work as a volunteer at (name volunteer organization) within the next 6 months?' (reverse scored)	.76	.57	3.93
2) 'How likely is it that you will continue your work as a volunteer at (name volunteer organization) for the next two years?'	.82	.67	3.77

$\alpha = .88$; paid workers: $\alpha = .88$) on the job were each measured with a reduced version of the Basic Need Satisfaction at Work Scale (Deci *et al.*, 2001) developed to assess intrinsic need satisfaction on the job. General *job satisfaction* (volunteers: $\alpha = .90$; paid workers: $\alpha = .77$) was assessed with 3 items adapted from the measure developed, validated, and used by Mitchell, Holtom, Lee, Sablinski, and Erez (2001). The *intent to remain* (volunteers: $\alpha = .76$; paid workers: $\alpha = .70$) a worker with the volunteer organization was assessed with two items that are generally used for measuring this construct among volunteers (see for instance Boezeman & Ellemers, 2007; Miller, Powell, & Seltzer, 1990). The responses to these items were recorded on a 5-point scale (1 = *highly unlikely*, 5 = *highly likely*).

Results

Measurement and correlation analyses

Our main predictions rely on the assumption that it is possible to distinguish between three different types of need satisfaction when predicting the job attitudes of volunteers. We therefore conducted confirmatory factor analyses on our sample

of volunteers in EQS 6.1 (Bentler & Wu, 2004) in order to examine whether the items clustered as predicted (i.e. 5 latent variables: the satisfaction of autonomy needs, satisfaction of competence needs, satisfaction of relatedness needs, job satisfaction, and intent to remain). We report the chi-squared (χ^2), the nonnormed fit index (NNFI), the comparative fit index (CFI), and the root mean square error of approximation (RMSEA) as omnibus fit indexes in the measurement analysis as well as in the path analysis that follows next. Model fit is typically indicated by these fit indexes when NNFI and CFI are between .90 and 1.00 and when RMSEA is less than .10 (e.g. Diamantopoulos & Sigauw, 2000; Raykov & Marcoulides, 2006; Schumacker & Lomax, 2004). The results of the confirmatory factor analyses are summarized in Tables 1 and 2.

Table 2. Confirmatory factor analysis results of study variables main volunteer sample

Model	df	χ^2	$\Delta\chi^2$	NNFI	CFI	RMSEA	AIC
5-factor measurement model	67	100**	–	.94	.96	.07	–33.7
4-factor measurement model ^a	71	131***	31***	.90	.92	.09	–11
3-factor measurement model ^b	74	188***	88***	.82	.85	.12	40
1-factor measurement model	77	333***	233***	.61	.67	.18	179

Note. $N = 105$. $\Delta\chi^2$ indicates the deviation of each alternative model compared to the hypothesized 5-factor measurement model for nested models, AIC is additionally reported and also serves as comparison index between non-nested models.

^aCombining job satisfaction and intent to remain.

^bCombining satisfaction of autonomy needs, competence needs, and relatedness needs.

** $p < .01$; *** $p < .001$.

The hypothesized 5-factor measurement model showed an acceptable fit to the data with $\chi^2(67, N = 105) = 100.29$, $p = .005$, NNFI = .94, CFI = .96, and RMSEA = .07. In order to further test the validity of the hypothesized 5-factor measurement model, we subsequently tested this model against alternative measurement models. In the alternative 4-factor measurement model, job satisfaction and the intent to remain were merged into one aggregate factor, because they could have been understood by the respondents as reflecting a global sense of work engagement. Further, previous research (Baard *et al.*, 2004; Deci *et al.*, 2001; Gagne, 2003) addressed intrinsic need satisfaction in a global way, and thus we also tested a 3-factor measurement model (where fulfilment of autonomy, competence, and relatedness needs were combined in a global factor) against our hypothesized 5-factor measurement model (in which satisfaction of autonomy needs, competence needs, and relatedness needs were considered individual factors). Finally, we tested a 1-factor measurement model in order to address bias from common method variance. The alternative models fit the data significantly less well than the hypothesized 5-factor measurement model (Table 2). Furthermore, the 1-factor measurement model did not indicate that a single factor accounted for the covariation among the items and this provides evidence against bias from common method variance (Podsakoff, MacKenzie, Lee, & Podsakoff, 2003). Thus, we accepted the hypothesized 5-factor measurement model as our final measurement model. Importantly, this model indicates that satisfaction of autonomy, competence,

Table 3. Correlations between averaged constructs for matched samples of volunteers and paid employees

	M	SD	1	2	3	4	5	6	7	8
<i>Volunteers (N = 105)</i>										
1) Satisfaction of autonomy needs	5.47	0.96	—							
2) Satisfaction of competence needs	5.44	0.94	.35***	—						
3) Satisfaction of relatedness needs	5.94	0.80	.52***	.44***	—					
4) Job satisfaction	6.02	0.81	.54***	.31***	.60***	—				
5) Intent to remain	3.85	1.03	.24**	.11	.29***	.55***	—			
6) Age	44.6	14.5	-.17*	-.14	-.02	-.00	.09	—		
7) Organizational tenure	6.29	6.70	-.02	.07	-.17	-.33***	-.18*	.27***	—	
8) Gender	—	—	.07	.22**	.08	.17	.00	-.35***	-.24**	—
<i>Paid workers (N = 25)</i>										
1) Satisfaction of autonomy needs	6.16	0.71	—							
2) Satisfaction of competence needs	6.07	0.76	.50**	—						
3) Satisfaction of relatedness needs	6.35	0.46	.33*	.44**	—					
4) Job satisfaction	6.49	0.46	.45**	.33	.36*	—				
5) Intent to remain	4.20	0.90	.36*	.32	.06	.55**	—			
6) Age	38.3	11.9	-.15	-.12	-.19	-.02	.09	—		
7) Organizational tenure	4.88	7.04	-.22	.04	-.09	.07	.24	.51**	—	
8) Gender	—	—	.07	-.11	.23	-.11	-.27	-.28	-.52**	—

Note. * $p < .10$; ** $p < .05$; *** $p < .01$.

and relatedness needs can be considered as providing separate contributions to intrinsic need satisfaction. We then averaged the scores for the scales and computed the correlations among the constructs (see Table 3). To be able to compare results for the volunteer sample with the sample of paid employees (see Table 3) in examining Hypothesis 4, we used the same clusters of items to calculate scale scores for paid employees (sample size (see Russell, 2002) did not permit confirmatory factor analysis on this sample). Overall, correlations between variables were as anticipated. We did observe some differences in correlation patterns across samples, which was also in line with predictions. For instance, while there is a reliable relation between satisfaction of relatedness needs and intent to remain in the volunteer sample ($N = 105$, $r = .29$, $p = .002$), this is not the case in the sample of paid employees ($N = 25$, $r = .06$, $p = .77$). Conversely, among volunteers there is no reliable relation between satisfaction of competence needs and intent to remain ($N = 105$, $r = .11$, $p = .27$), which differs from observations in the paid employee sample ($N = 25$, $r = .32$, $p = .13$). While the differences in sample size make it difficult to directly compare these correlations in terms of their statistical significance, it is clear that the observed relations diverge (e.g. in terms of variance explained) for the two samples. This confirms the general notion that we cannot simply make inferences about the job attitudes of volunteer workers based on what we know about paid employees, but need to examine these specifically.

Path analysis

We conducted path analyses in EQS 6.1 (Bentler & Wu, 2004) to test the hypothesized structural model (Figure 1) and its individual paths. Overall, the hypothesized path model fit the data well $\chi^2(3, N = 105) = 1.18$, $p = ns$, NNFI = 1.04, CFI = 1.00, RMSEA < .05². At this stage, we tested our hypothesized fully mediated path model (Figure 1) against alternative path models. First, we tested our hypothesized path model (Figure 1) against an alternative partially mediated path model with direct paths from satisfaction of autonomy, competence, and relatedness needs to the intent to remain in addition to the paths depicted in Figure 1, because Deci *et al.* (2001) for instance found (among paid workers) a direct relation between intrinsic need satisfaction on the job and engagement with the organization. In the partially mediated path model, all additional paths were non-significant, and thus this alternative model did not represent a significant improvement over the more parsimonious hypothesized path model (Figure 1). Further, due to the fact that our data were collected at a single point in time, we also tested our hypothesized path model (Figure 1) in a reversed order to address the proposed directionality of the relationships among the variables. The alternative reversed causal order path model did not show a significant improvement of fit over the hypothesized path model (Figure 1), as the Akaike's Information Criterion (AIC) of the hypothesized path model (AIC = -4.8) was smaller than in the case of the alternative reversed causal order model with $\chi^2(6, N = 105) = 24.80$, $p < .001$, NNFI = .78, CFI = .87, RMSEA = .17, and AIC = 12.8 (cf. Bentler, 2004). This argues

² The present sample size is smaller than required to reliably estimate the measurement model and test the path model simultaneously (with structural equation modeling). This is why we first conducted confirmatory factor analysis for scale construction, and then carried out path analysis with the resulting scale scores to test the hypothesized relations between constructs. Nevertheless, when we tested the hypothesized model with SEM in EQS 6.1 (Bentler & Wu, 2004), the hypothesized model fit the data well $\chi^2(70, N = 105) = 104$, $p = .005$, NNFI = .94, CFI = .96, and RMSEA = .07, and showed similar relationships among the latent variables as in the path analysis reported here.

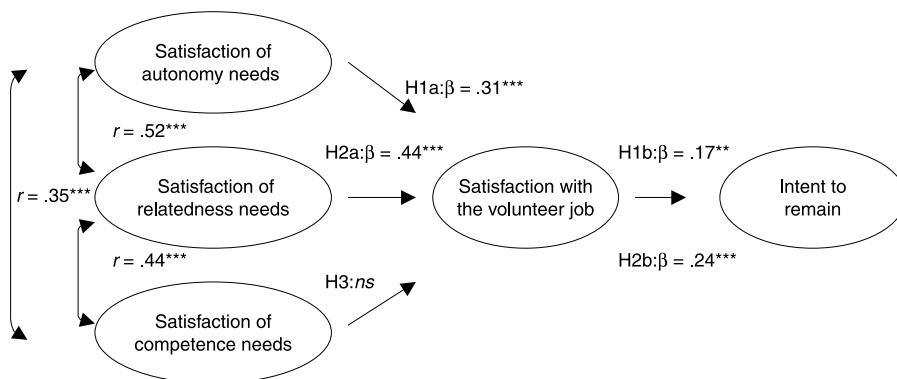


Figure 1. Volunteer sample: Predicted relations between variables (with Hypothesis numbers indicated), indicating direct (H1a, H2a, H3) and indirect effects (H1b, H2b) observed. The satisfaction of autonomy and relatedness needs on the volunteer job jointly account for 43% of the variance in volunteers' job satisfaction, and the overall effect of job satisfaction ($\beta = 0.55$, $p < .001$) accounts for 31% of the variance in volunteers' intentions of remaining a volunteer with the volunteer organization. ** $p < .01$, *** $p < .001$.

for the proposed directionality of the paths in our hypothesized model. In sum, we accepted the hypothesized path model (Figure 1) for further analysis, and continued with the examination of the specific hypotheses.

Intrinsic need satisfaction as a predictor of volunteers' job satisfaction and intent to remain

We found support for Hypothesis 1a, in that satisfaction of autonomy needs during volunteer work is directly and positively associated with volunteers' job satisfaction ($\beta = 0.31$, $p < .001$). Further, we found support for Hypothesis 1b, in that satisfaction of autonomy needs on the volunteer job is indirectly and positively associated with volunteers' intentions of remaining a volunteer with the volunteer organization through job satisfaction ($\beta = 0.17$, $p < .01$). These results suggest that when volunteers experience satisfaction of autonomy needs during their volunteer work, they are more satisfied with their volunteer job and that this in turn enhances their intent to remain a volunteer with the volunteer organization (see Figure 1).

We found support for Hypothesis 2a, in that satisfaction of relatedness needs during volunteer work is directly and positively associated with volunteers' job satisfaction ($\beta = 0.44$, $p < .001$). Also, we found support for Hypothesis 2b, in that satisfaction of relatedness needs on the volunteer job is indirectly and positively associated with volunteers' intentions of remaining a volunteer with the volunteer organization through job satisfaction ($\beta = 0.24$, $p < .001$). These results suggest that when volunteers experience satisfaction of relatedness needs during their volunteer work, they are more satisfied with their volunteer job and that this in turn enhances their intent to remain a volunteer with the volunteer organization (see Figure 1).

Finally, we predicted (Hypothesis 3) that when controlling for the satisfaction of autonomy and relatedness needs on the volunteer job as predictors of volunteers' job satisfaction (directly) and intent to remain (indirectly), the satisfaction of competence needs on the volunteer job is less relevant to volunteers' job satisfaction and intentions

of remaining a volunteer with the volunteer organization. When we tested the hypothesized path model (Figure 1), we found that beyond satisfaction of autonomy needs ($\beta = 0.31, p < .001$) and relatedness needs ($\beta = 0.44, p < .001$), the satisfaction of competence needs did not further contribute to volunteers' job satisfaction ($\beta = 0.01, p = ns$). Satisfaction of competence needs was also *unrelated* to volunteers' intentions of remaining a volunteer with the volunteer organization ($\beta = 0.00, p = ns$). A Wald Test (see for a discussion Byrne, 1994) generated by EQS 6.1 (Bentler & Wu, 2004) corroborated this as it indicated that the direct path from satisfaction of competence needs to job satisfaction could be omitted from the hypothesized model without substantial loss in model fit. In order to further address Hypothesis 3, we then tested the model including a relation between satisfaction of competence needs and job satisfaction (directly) and intent to remain (indirectly) *against* a path model in which we specified *no relation* between satisfaction of competence needs and job satisfaction (directly) and intent to remain (indirectly). We found that the model in which satisfaction of competence needs was not permitted to relate to job satisfaction and intent to remain fit the data well with $\chi^2(4, N = 105) = 1.19, p = ns$, NNFI = 1.05, CFI = 1.00, RMSEA = .00, AIC = -6.8. Furthermore, these two models could be directly compared against each other on the basis of the chi-squared differences test. This showed that the fit of the hypothesized path model was not significantly different from the more parsimonious and well fitting model that specified no relation between satisfaction of competence needs and job satisfaction (directly) and intent to remain (indirectly). These results offer support for Hypothesis 3, in that they show that satisfaction of competence needs has no significant added value in predicting job satisfaction and intentions of remaining with the volunteer organization above and beyond the effects of satisfaction of autonomy needs and relatedness needs.

Comparing volunteers with paid employees

We predicted (Hypothesis 4) that in the case of *paid workers* job satisfaction and intent to remain are primarily enhanced by the satisfaction of *autonomy* needs on the job, while the job satisfaction and intent to remain of *volunteers* are primarily enhanced by satisfaction of *relatedness* needs on the job. We compared volunteers to the matched sample of paid employees, and conducted stepwise regression analyses to examine direct effects of intrinsic need satisfaction on job satisfaction, and mediation analyses to test the indirect effects of intrinsic need satisfaction on intent to remain, through job satisfaction, as predicted in Hypothesis 4 (Baron & Kenny, 1986; see also Frazier, Tix, & Barron, 2004; Preacher & Hayes, 2004; Preacher & Leonardelli, 2001).³

In the case of *paid employees*, stepwise regression analysis first showed that the satisfaction of *autonomy* needs on the job ($\beta = 0.45, p < .05$) is the primary predictor of job satisfaction ($R^2 = .20$). After inclusion of autonomy needs as a predictor of job satisfaction, satisfaction of relatedness needs ($\beta = 0.13, p = ns$) and competence needs ($\beta = 0.24, p = ns$) did not explain additional variance in the paid workers' job satisfaction in this analysis. By contrast, in the case of the *volunteer workers*, stepwise regression analysis revealed that the satisfaction of *relatedness* needs on the job ($\beta = 0.60, p < .001$) is the primary predictor of job satisfaction ($R^2 = .36$). The satisfaction of relatedness needs ($\beta = 0.44, p < .001$) remained the primary predictor of

³ The results reported here are identical to the results obtained when testing Hypothesis 4 only with volunteers working in the same subdivision where paid workers were employed.

volunteers' job satisfaction, when satisfaction of autonomy needs ($\beta = 0.31, p = .001$) was added to the regression model ($\Delta R^2 = .07$). The satisfaction of competence needs ($\beta = 0.1, p = ns$) did not emerge as a significant predictor in this regression analysis, which is consistent with results obtained in the path analysis conducted on the sample of volunteers.

After checking that the preconditions for testing mediation were fulfilled (Baron & Kenny, 1986), we examined the indirect effects of satisfaction of autonomy and relatedness needs on the job on the intent to remain with the organization through job satisfaction, for each sample. In the case of *paid employees* the direct effect of satisfaction of autonomy needs ($b = 0.45, \beta = 0.36, p = .08, R^2 = .13$) on the intent to remain became non-significant ($b = 0.17, \beta = 0.14, p = ns$) when job satisfaction ($b = 0.96, \beta = 0.49, p < .05$) was included as an additional predictor in the analysis ($R^2 = .32$). This indicates full mediation, which was significant as indicated by a Sobel test ($z = 1.74, p = .08$). The 95% confidence interval (.0285; .8017) calculated with a bootstrap-procedure (Preacher & Hayes, 2004) corroborated that the mediation effect under study was significant because zero (0) was not included as a value in the confidence interval. Satisfaction of relatedness needs ($\beta = 0.06, p = ns$) did not reliably predict the intent to remain in the sample of paid workers. However, as hypothesized, the satisfaction of relatedness needs did predict the intent to remain in the case of the *volunteers*. That is, the direct effect of satisfaction of relatedness needs ($b = 0.38, \beta = 0.29, p < .01, R^2 = .09$) on the intent to remain became non-significant ($b = -.07, \beta = -.06, p = ns$) when job satisfaction ($b = 0.75, \beta = 0.59, p < .001$) was included as an additional predictor in the analysis ($R^2 = .31$). This indicated full mediation, significant as indicated by a Sobel test ($z = 4.54, p < .001$). The 95% confidence interval (.1895; .6968) calculated with a bootstrap-procedure (Preacher & Hayes, 2004) further corroborated that this mediation effect was significant because zero (0) was not included as a value in the confidence interval. This corroborates results from the path analysis conducted among the sample of volunteers, as reported above.

In sum, when we compared the different types of workers, we found that *satisfaction of autonomy needs* is the most relevant predictor of job satisfaction and intent to remain for *paid employees*. In contrast, we found that *volunteers* derive their job satisfaction and willingness to remain with the organization primarily from their *satisfaction of relatedness needs* on the job. These results offer empirical evidence for Hypothesis 4.

Discussion

By distinguishing between specific types of intrinsic need satisfaction, we were able to show that satisfaction of autonomy needs and relatedness needs are more relevant to volunteers' job satisfaction and their intentions of remaining a volunteer with the volunteer organization than satisfaction of competence needs. Further, we found that the job attitudes of *volunteers* are primarily predicted by their satisfaction of relatedness needs, while this is not the case for *paid employees*, who primarily derive their job satisfaction and intent to remain from the satisfaction of autonomy needs on the job.

Theoretical implications

In our analysis of intrinsic need satisfaction and work related outcomes (i.e. job satisfaction, intent to remain) among volunteers, we argued and found that different

types of need satisfaction can have independent roles in predicting work-related outcomes as dependent upon organizational context (Johns, 2006). That is, in contrast to previous research (e.g. Baard *et al.*, 2004; Deci *et al.*, 2001) that has addressed intrinsic need satisfaction as a single and more global construct, we addressed the *independent* contribution of satisfaction of autonomy needs, competence needs, and relatedness needs on the job in predicting work-related outcomes. In the situation of volunteer work, where job standards and evaluation criteria are unclear, unskilled work is common, and performance evaluations are infrequent or even non-existent, we predicted and found the satisfaction of autonomy and relatedness needs to be more relevant to job satisfaction and intentions of remaining with the organization than satisfaction of competence needs. Thus, these findings contribute to further insight into the specific processes through which the satisfaction of intrinsic needs contributes to work-related outcomes among volunteers.

Additionally, our research suggests that the organizational experiences of volunteers are different from the organizational experiences of paid employees, presumably as a result of effects of organizational context (Johns, 2006). That is, even though the jobs they performed for the organization were quite similar, we found that *volunteers* primarily derive their job satisfaction and intent to remain with the organization from their satisfaction of *relatedness* needs on the job. By contrast, for *paid employees* satisfaction of *autonomy* needs emerged as the most important predictor of job satisfaction and intent to remain. These results underline the importance of specifically examining the work motivation and job attitudes of volunteers, instead of relying on what we know from research conducted among paid employees (Boezeman & Ellemers, 2007, 2008a; Galindo-Kuhn & Guzey, 2001; Pearce, 1993; Gidron, 1983).

In addition to these theoretical implications, the present research can inform volunteer organizations that wish to address the job satisfaction and tenure of their workers. Our results indicate that whereas the satisfaction of relatedness needs is key to the job satisfaction and intentions to remain among volunteers, the job attitudes of paid employees working in a charitable volunteer organization are more likely to depend on the satisfaction of autonomy needs.

Limitations, strengths, and future directions

A limitation of the research reported here is that it examines correlational data from cross-sectional self-reports obtained among a relatively small sample of people working in a single volunteer organization. However, in analyzing the results we attempted to examine whether this influenced the results we obtained. First of all, we found indications that the results that we obtained reflect meaningful relations between the hypothesized constructs. That is, when we addressed the possibility of common method variance, we found that a 1-factor measurement model did not fit the data, making it less likely that the observed relations stem from a methodological bias (cf. Podsakoff *et al.*, 2003). Also, our interpretation of the data not only reflect the causal relationships proposed in the theoretical framework that we used (Deci & Ryan, 2000; Ryan & Deci, 2000), but is also consistent with previous research findings (e.g. Baard *et al.*, 2004; Deci *et al.*, 2001). Finally, in our statistical analysis we have addressed the possibility that the causal relations between the model variables might be different, but alternative models accounted less well for the present data. As such, despite its limitations, we think this research offers an interesting and important first step into examining and addressing the job attitudes of volunteers, even though the robustness of our findings should be

cross-validated in future research that uses additional methodologies and examines a broader range of volunteers working in different organizations.

A second limitation of the present research is that we compared the effects of intrinsic need satisfaction on the job among volunteers versus paid employees in a relatively small matched sample. Nevertheless, in examining the matched sample we were able to control for organizational variables that tend to confound the research on the job attitudes of volunteers versus paid employees (see for a discussion Liao-Troth, 2001). That is, our research is the first that we know of to contrast volunteers with paid workers performing *identical work, serving the same clientele, within the same organization* in which *no formal hierarchical differences* between the worker types were present. As such, despite the relatively small sample, the results certainly contribute to the current insights into the differences and similarities between volunteers and paid employees and their job attitudes. Nevertheless, future work should further examine in which way factors that are presumed to predict job satisfaction have comparable and differential effects between volunteers and paid workers.

Finally, by distinguishing between satisfaction of autonomy needs, competence needs, and relatedness needs as components of intrinsic need satisfaction that can be addressed separately, this work opens up new avenues of research, in which the differential origins of these three types of need satisfaction and their consequences with regard to work motivation, job attitudes, and work-related outcomes can be examined across different work domains.

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References

- Baard, P. B., Deci, E. L., & Ryan, R. M. (2004). Intrinsic need satisfaction: A motivational basis of performance and well-being in two work settings. *Journal of Applied Social Psychology, 34*, 2045–2068.
- Baron, R. M., & Kenny, D. A. (1986). The moderator–mediator variable distinction in social psychological research: Conceptual, strategic and statistical considerations. *Journal of Personality and Social Psychology, 51*, 1173–1182.
- Bentler, P. M. (2004). *EQS 6 structural equations program manual*. Encino, CA: Multivariate Software.
- Bentler, P. M., & Wu, E. J. W. (2004). *EQS 6.1 for Windows*. Encino, CA: Multivariate Software.
- Boezeman, E. J., & Ellemers, N. (2007). Volunteering for charity: Pride, respect, and the commitment of volunteers. *Journal of Applied Psychology, 92*, 771–785.
- Boezeman, E. J., & Ellemers, N. (2008a). Pride and respect in volunteers' organizational commitment. *European Journal of Social Psychology, 38*, 159–172.
- Boezeman, E. J., & Ellemers, N. (2008b). Volunteer recruitment: The role of organizational support and anticipated respect in non-volunteers' attraction to charitable volunteer organizations. *Journal of Applied Psychology, 93*, 1013–1026.
- Brief, A. P. (1998). *Attitudes in and around organizations*. London: Sage.
- Byrne, B. M. (1994). *Structural equation modelling with EQS and EQS/Windows: Basic concepts, applications, and programming*. Thousand Oaks, CA: Sage.

- Clary, E. G., Snyder, M., Ridge, R. D., Copeland, J., Stukas, A. A., Haugen, J., *et al.* (1998). Understanding and assessing the motivations of volunteers: A functional approach. *Journal of Personality and Social Psychology*, *74*, 1516-1530.
- Cnaan, R. A., & Cascio, T. A. (1999). Performance and commitment: Issues in management of volunteers in human service organizations. *Journal of Social Service Research*, *24*, 1-37.
- Cnaan, R. A., & Goldberg-Glen, R. S. (1991). Measuring motivation to volunteer in human services. *Journal of Applied Behavioural Science*, *27*, 269-284.
- Deci, E. L., & Ryan, R. M. (2000). The 'what' and 'why' of goal pursuits: Human needs and the self-determination of behaviour. *Psychological Inquiry*, *11*, 227-268.
- Deci, E. L., Ryan, R. M., Gagne, M., Leone, D. R., Usunov, J., & Kornazheva, B. P. (2001). Need satisfaction, motivation, and well-being in the work organizations of a former eastern bloc country: A cross-cultural study of self-determination. *Personality and Social Psychology Bulletin*, *27*, 930-942.
- Diamantopoulos, A., & Sigauw, J. A. (2000). *Introducing Lisrel: A guide to the uninitiated*. London: Sage.
- Farmer, S. M., & Fedor, D. B. (1999). Volunteer participation and withdrawal: A psychological contract perspective on the role of expectations and organizational support. *Nonprofit Management and Leadership*, *9*, 349-367.
- Farmer, S. M., & Fedor, D. B. (2001). Changing the focus on volunteering: An investigation of volunteers' multiple contributions to a charitable organization. *Journal of Management*, *27*, 191-211.
- Frazier, P. A., Tix, A. P., & Barron, K. E. (2004). Testing moderator and mediator effects in counseling psychology research. *Journal of Counseling Psychology*, *51*, 115-134.
- Gagne, M. (2003). The role of autonomy support and autonomy orientation in prosocial behaviour engagement. *Motivation and Emotion*, *27*, 199-223.
- Gagne, M., & Deci, E. L. (2005). Self-determination theory and work motivation. *Journal of Organizational Behaviour*, *26*, 331-362.
- Galindo-Kuhn, R., & Guzley, R. M. (2001). The volunteer satisfaction index: Construct definition, measurement, development, and validation. *Journal of Social Service Research*, *28*, 45-68.
- Gidron, B. (1983). Sources of job satisfaction among service volunteers. *Journal of Voluntary Action Research*, *12*, 20-35.
- Greenslade, J. H., & White, K. M. (2005). The prediction of above-averaged participation in volunteerism: A test of the theory of planned behaviour and the volunteers functions inventory in older Australian adults. *The Journal of Social Psychology*, *145*, 155-172.
- Griffin, R. W., & Bateman, T. S. (1986). Job satisfaction and organizational commitment. In C. L. Cooper & I. Robertson (Eds.), *International review of industrial and organizational psychology* (pp. 157-188). New York: John Wiley and Sons.
- Handy, C. (1988). *Understanding voluntary organizations*. London: Penguin.
- Johns, G. (2006). The essential impact of context on organizational behavior. *Academy of Management Review*, *31*, 386-408.
- Judge, T. A., Thoresen, C. J., Bono, J. E., & Patton, G. K. (2001). The job satisfaction-performance relationship: A qualitative and quantitative review. *Psychological Bulletin*, *127*, 376-407.
- Kanfer, R. (1994). Work motivation: New directions in theory and research. In C. L. Cooper & I. T. Robertson (Eds.), *Key reviews in managerial psychology* (pp. 1-53). New York: Wiley.
- Laczo, R. M., & Hanisch, K. A. (1999). An examination of behavioural families of organizational withdrawal in volunteer workers and paid employees. *Human Resource Management Review*, *9*, 453-477.
- Liao-Troth, M. A. (2001). Attitude differences between paid workers and volunteers. *Nonprofit Management and Leadership*, *11*, 423-442.
- Light, P. C. (2002). The content of their character: The state of the nonprofit workforce. *The Nonprofit Quarterly*, *9*, 6-16.
- Locke, E. A. (1976). The nature and causes of job satisfaction. In M. D. Dunnette (Ed.), *Handbook of industrial and organizational psychology* (pp. 1297-1349). Chicago: Rand McNally.

- McClelland, D. C. (1987). *Human motivation*. New York: Cambridge University Press.
- Meijs, L. C. P. M. (1997). *Management Van Vrijwilligersorganisaties*. Utrecht: NOV Publikaties.
- Millette, V., & Gagne, M. (2008). Designing volunteers' tasks to maximize motivation, satisfaction and performance: The impact of job characteristics on volunteer engagement. *Motivation and Emotion, 32*, 11-22.
- Miller, L. E., Powell, G. N., & Seltzer, J. (1990). Determinants of turnover among volunteers. *Human Relations, 43*, 901-917.
- Mitchell, T. R., Holtom, B. C., Lee, T. W., Sablinski, C. J., & Erez, M. (2001). Why people stay: Using job embeddedness to predict voluntary turnover. *Academy of Management Journal, 44*, 1102-1121.
- Netting, F. E., Nelson, H. W., Borders, K., & Huber, R. (2004). Volunteer and paid staff relationships: Implications for social work administration. *Administration in Social Work: The Quarterly Journal of Human Services Management, 28*, 69-89.
- Pearce, J. L. (1983). Job attitude and motivation differences between volunteers and employees from comparable organizations. *Journal of Applied Psychology, 68*, 646-652.
- Pearce, J. L. (1993). *Volunteers: The organizational behaviour of unpaid workers*. London/New York: Routledge.
- Penner, L. A., & Finkelstein, M. A. (1998). Dispositional and structural determinants of volunteerism. *Journal of Personality and Social Psychology, 74*, 525-537.
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioural research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology, 88*, 879-903.
- Preacher, K. J., & Leonardelli, G. J. (2001). Calculation for the sobel test: An interactive calculation tool for mediation tests. Retrieved from <http://www.psych.ku.edu/preacher/sobel/sobel.htm>.
- Preacher, K. J., & Hayes, A. F. (2004). SPSS and SAS procedures for estimating indirect effects in simple mediation models. *Behaviour Research Methods, Instruments, and Computers, 36*, 717-731.
- Raykov, T., & Marcoulides, G. A. (2006). *A first course in structural equation modeling*. Mahwah, NJ: Erlbaum.
- Russell, D. W. (2002). In search of underlying dimensions: The use (and abuse) of factor analysis in Personality and Social Psychology Bulletin. *Personality and Social Psychology Bulletin, 28*, 1629-1646.
- Ryan, R. M., & Deci, E. L. (2000). Self-determination theory and the facilitation of intrinsic motivation, social development, and well-being. *American Psychologist, 55*, 68-78.
- Schumacker, R. E., & Lomax, R. G. (2004). *A Beginner's guide to structural equation modelling* (2nd ed.). London: Lawrence Erlbaum Associates Publishers.
- Tidwell, M. V. (2005). A social identity model of prosocial behaviours within nonprofit organizations. *Nonprofit Management and Leadership, 15*, 449-467.

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