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Gender differences in the association of a high quality job and self-esteem over time: A multiwave study

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High self-esteem often predicts job-related outcomes, such as high job satisfaction or high status. Theoretically, high quality jobs (HQJs) should be important for self-esteem, as they enable people to use a variety of skills and attribute accomplishments to themselves, but research findings are mixed. We expected reciprocal relationships between self-esteem and HQJ. However, as work often is more important for the status of men, we expected HQJ to have a stronger influence on self-esteem for men as compared to women. Conversely, task-related achievements violate gender stereotypes for women, who may need high self-esteem to obtain HQJs. In a 4-year cross-lagged panel analysis with 325 young workers, self-esteem predicted HQJ; the lagged effect from HQJ on self-esteem was marginally significant. In line with the hypotheses, the multigroup model showed a significant path only from self-esteem to HQJ for women, and from HQJ to self-esteem for men. The reverse effect was not found for women, and only marginally significant for men. Overall, although there were some indications for reciprocal effects, our findings suggest that women need high self-esteem to obtain HQJs to a greater degree than men, and that men base their self-esteem on HQJs to a greater extent than women.

Keywords: Autonomy; Skill variety; High quality job; Self-esteem; Gender differences; Cross-lagged panel analysis.

Arguably, self-esteem is among the attributes that many people would like to have (Orth, Robins, & Widaman, 2012). It features prominently among aspects of highly satisfying life experiences (Sheldon, Elliot, Kim, & Kasser, 2001), and many people react rather strongly when their self-esteem is threatened (Sedikides & Strube, 1997). Although there are downsides to having high self-esteem (cf. Baumeister, Campbell, Krueger, & Vohs, 2003), overall, high self-esteem tends to be associated with other positive characteristics. Thus, people with higher self-esteem tend to be more satisfied with their jobs and their relationship, and to have better health, both in terms of physical health and in terms of mental health (Orth et al., 2012). Some studies also find higher occupational status and salaries for people with high self-esteem (Kammeyer-Mueller, Judge, & Piccolo, 2008; Kuster, Orth, & Meier, 2013).

Several studies report effects of self-esteem on the health, satisfaction, and status variables mentioned, but no, or weak effects from these variables on self-esteem (Kammeyer-Mueller et al., 2008; Orth et al., 2012). Theoretically, however, there are good reasons to assume effects of one's environment on self-esteem; specifically, high quality work in terms of being able to use a variety of skills and having a high degree of autonomy is likely to promote feelings of mastery and autonomy and hence positively affect self-esteem (cf. Barling, Kelloway, & Iverson, 2003; Pierce & Gardner, 2004). As a consequence, one would expect reciprocal effects between high quality work and self-esteem, and a few studies did find such effects (e.g., Schooler & Oates, 2001; Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2009). Given the conflicting findings with regard to effects of the work environment on self-esteem, more research is needed to help resolve this issue. The present study aims at contributing to this goal by investigating reciprocal associations over time between high quality work and self-esteem.

Studies that investigate self-esteem often consider gender differences (e.g., Orth et al., 2012). We are not aware of research on gender differences regarding the relationship between self-esteem and job design. However, some studies focused on gender differences regarding other outcomes of job design (e.g.,

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Sonnentag, 1996). There are reasons to believe that there are differences among men and women with regard to the prediction of high quality work by self-esteem and with regard to the prediction of self-esteem by high quality work; specifically, we will argue that effects are stronger from high quality work to self-esteem for men, and from self-esteem to high quality work for women. The second goal of the current study is to investigate such gender differences.

SELF-ESTEEM

Self-esteem reflects a positive or negative evaluation of oneself (Brown, 1993; Rosenberg, 1979). There are many different concepts of self-esteem (cf. Kernis, 2006). It is often used as a single construct (global self-esteem; e.g., Trzesniewski, Donnellan, & Robins, 2003); some authors distinguish between self-confidence and self-deprecation (composed of the positively and negatively worded items, respectively, from the Rosenberg scale; Rosenberg, Schooler, Schoenbach, & Rosenberg, 1995). More recently, two components of global self-esteem have been distinguished (Mruk, 2006; Tafarodi & Swann, 2001). Following Tafarodi and Swann's (e.g., 2001) terminology, one component is characterized by an evaluation of one's worth, called "self-liking". The other component is characterized by an evaluation of one's competences and is called "self-competence", which Tafarodi and Swann see as "the valuative imprint of general self-efficacy on identity" (2001, p. 655). Self-competence is likely to be influenced by experiences of mastery, as well as by social messages by others expressing regard for one's competences (cf. Pierce & Gardner, 2004). Self-liking is likely to be influenced by experiences of moral virtue and by messages from one's environment as being liked and worthy. Because the two components are strongly related to each other, the specific influences fostering self-competence (mastery) and self-liking (worth) are likely to influence not only their pertinent component but also global self-esteem (Tafarodi & Swann, 2001).

Authors do not agree on why self-esteem is so important. Some, like Baumeister and Leary (1995), see self-esteem as an indicator of one's acceptance by significant others, thus giving priority to the need to belong. Others, such as Epstein (2004) or Sheldon et al. (2001), see self-esteem as a basic need. Some authors see self-esteem as an indicator of well-being (e.g., O'Brien, Bartoletti, Leitzel, & O'Brien, 2006; Ryan & Deci, 2000); others see it as a correlate of well-being (Diener, Suh, Lucas, & Smith, 1999), and as a component of a broader concept of mental health (Warr, 2007). There is broad agreement, however, that the way people feel about themselves is important for their lives, making the investigation of potential predictors and consequences of self-esteem a worthwhile endeavour (cf. Swann, Chang-Schneider, & Larsen McClarty, 2007).

Global self-esteem tends to be rather stable (Kuster & Orth, 2013; Trzesniewski et al., 2003), but stability is not absolute. Trzesniewski et al. (2003) report a 3-year stability of $r = .62$ (disattennuated, controlling for age and time period), implying that about 60% of the variance cannot be explained by stability for this time lag. Studies covering longer time periods tend to find systematic changes in mean levels, which are lower around age 18–22, increase during middle age, and decrease after age 60. Rank order stability tends to be curvilinear over the life span, being high for middle adulthood and lower during childhood, adolescence, and old age (Erol & Orth, 2011; Trzesniewski et al., 2003). Adolescence, therefore, is a period in life when changes in self-esteem are especially likely.

HIGH QUALITY JOBS

Over decades, authors have suggested job features that characterize high quality job design. Some authors have their background in the area of job design (e.g., Hackman & Oldham, 1980; Humphrey, Nahrgang, & Morgeson, 2007; Parker & Wall, 1998), some in the area of stress and well-being (e.g., Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001), others in the area of human resources management (e.g., Barling et al., 2003). Of the many job characteristics that have been proposed and investigated (cf. Humphrey et al., 2007), two were included in the present research: autonomy and skill variety.

Autonomy, often referred to as control, is part of just about every model of job design (Hackman & Oldham, 1980; Humphrey et al., 2007; Parker & Wall, 1998). It features prominently in Karasek's Job Control–Demands model (e.g., Karasek, 1979) and its extension, the Job Demands–Resources model (Demerouti et al., 2001), and also in the sociotechnical approach (Cherns, 1987; Clegg, 2000). It describes employees' possibilities to make decisions about their own activities and the conditions under which these are to be performed. By implying the possibility to exert influence, autonomy enables people to attribute achievements to themselves and to feel responsible for them, because the results of one's work depend on one's own efforts (Grant & Parker, 2009; Parker & Ohly, 2008).

Skill variety refers to the extent to which different skills are required for a given job (Hackman & Oldham, 1980; Humphrey et al., 2007). It therefore contains elements of variability as well as complexity. The use of various skills is more challenging and requires more involvement (Hackman & Oldham, 1980; Humphrey et al., 2007). Like autonomy, it has often been found to be related to aspects of well-being (Humphrey et al., 2007).

Barling et al. (2003) characterized the combination of task variety, autonomy, and training as "high quality work". Skill variety signifies the opportunity to use and

extend one's skills, and thus captures the combination of variety and skill use contained in Barling et al.'s concept, but in our concept both refer to what the job offers and requires rather than to training efforts. Thus, based upon Barling et al.'s concept, but focusing on job design, we refer to the combination of autonomy and skill variety as "high quality job" (HQJ). This concept is similar to Kohn and Schooler's (1983; Schooler & Oates, 2001) concept of occupational self-direction, which consists of complexity, closeness of supervision, and low routinization; closeness of supervision implies autonomy, and the combination of complexity and low routinization implies skill variety.

RECIPROCAL INFLUENCES OF SELF-ESTEEM AND HIGH QUALITY JOBS

Why should self-esteem and high quality jobs be related to each other? Regarding effects of high quality jobs on self-esteem, the main argument is based on the fact that experiences of mastery and success, as well as social messages of being highly regarded, are an important source of self-esteem. Applying this argument to the work situation, Baumeister et al. (2003, p. 14) state that "occupational success might well boost self-esteem, whereas failure at one's job may deflate it".

Being successful depends not only on one's skills and motivation, but also on the extent to which the work situation offers opportunities for experiencing success. High quality work is an important prerequisite for success; mastering trivial pursuits that are highly structured is not likely to be experienced as a success, whereas mastering tasks that require different skills and contain a variety of different elements imply a challenge. Mastering challenges, in turn, is likely to increase self-esteem (Korman, 1971; Lazarus, 1999; Pierce & Gardner, 2004). Of course, high quality work does not automatically imply actually mastering the challenges involved. However, it is unlikely that employees are assigned tasks requiring skill use for any extended period of time if they do not actually master them. Thus, being assigned such tasks also implies a message by the organization, especially by one's superiors, that one is seen as capable and dependable. Such a message should boost self-esteem (Pierce & Gardner, 2004).

Autonomy is important for self-esteem because it allows employees to attribute achievements to themselves and to feel responsible for them, as the results of one's work depend on one's own efforts and skills (Grant & Parker, 2009; Parker & Ohly, 2008; cf. Hackman & Oldham, 1980; Humphrey et al., 2007). Furthermore, just as being assigned tasks with high skill variety, being granted autonomy conveys an organizational message of being regarded as competent and being trusted, which in turn may foster self-esteem (Pierce & Gardner, 2004; Schwalbe, 1985; Semmer & Beehr, 2013).

Altogether, skill variety and autonomy represent important prerequisites for having experiences of success and for attributing these successes to oneself; such experiences should especially foster the competence aspect of self-esteem, and, because the competence aspect also influences the self-liking aspect, an increase in global self-esteem should result.

As mentioned earlier, empirical evidence on the effects of job conditions on self-esteem is mixed, with some studies finding no, or weak effects (Kammeyer-Mueller et al., 2008; Kuster et al., 2013; Orth et al., 2012), whereas others do find such effects (Schooler & Oates, 2001; Xanthopoulou et al., 2009). Other research finds such effects for a more specific facet of self-esteem, that is, organization-based self-esteem (OBSE; Pierce, Gardner, Cummings, & Dunham, 1989). For example, autonomy, job complexity, as well as task interdependence were associated with higher levels of OBSE (e.g., Chattopadhyay & George, 2001; Pierce et al., 1989; Tan & Peng, 1997; Vecchio, 2000). OBSE is more specific than global self-esteem, and it should be more malleable and responsive to work experience. However, as one would expect, OBSE and global self-esteem are associated with one another (Pierce & Gardner, 2004), and one can assume that fostering OBSE could have indirect effects on global self-esteem. In line with this argument, Widmer, Semmer, Kälin, Jacobshagen, and Meier (2012) have shown that the challenge component of time pressure was related to a generally positive attitude towards life, and that this association was mediated by OBSE. Based on these considerations, we postulate:

> *Hypothesis 1:* Having a high quality job, as indicated by high autonomy and skill variety, positively affects self-esteem over time.

Regarding potential effects of self-esteem on high quality jobs, several arguments can be made. People high in self-esteem have higher aspirations and are more likely to accept and seek challenges (Gottfredson, 1981; Judge, Bono, & Locke, 2000; Judge, Locke, Durham, & Kluger, 1998), including work assignments that imply high skill variety and autonomy. They perceive challenging tasks as an opportunity for learning, mastering, and obtaining benefits (e.g., in terms of career advancement), whereas people with lower levels of self-esteem tend to view challenges as a threat they tend to avoid (Srivastava, Locke, Judge, & Adams, 2010).

People high in self-esteem may have higher motivation for goal attainment (Erez & Judge, 2001), may be more persistent in coping with problems, and more skilful in using cues indicating whether or not they should persist when faced with failure (Di Paula & Campbell, 2002). Thus, people high in self-esteem often achieve better performance, which, in turn, should increase the chances of being assigned tasks high in skill use and autonomy. Finally, they may be more prone to craft their

jobs so that they may be more challenging (Kammeyer-Mueller et al., 2008; Semmer & Schallberger, 1996; Wrzesniewski & Dutton, 2001).

In line with these arguments, evidence for an effect of self-esteem on job conditions is quite strong (Kuster et al., 2013; Srivastava et al., 2010). We therefore postulate:

> *Hypothesis 2:* Self-esteem positively affects high quality job over time.

Taken together, it seems likely that the relationship between self-esteem and high job quality job is reciprocal, and there is some empirical support for this assertion, even though systematic research is scarce. A two-wave study by Xanthopoulou and colleagues (2009) found job resources (autonomy, social support, supervisory coaching, performance feedback, opportunities for professional development) to be reciprocally related to personal resources (self-esteem, self-efficacy, optimism) over 18 months. This study does not reveal which specific job features lead to which personal resources and vice versa. The study by Schooler and Oates (2001) found self-confidence to predict job complexity, and job complexity to predict self-deprecation. However, the lagged effects reported covered a time span of 20 years, and developments in between remain unclear. Also, Schooler and Oates (2001) did not include gender, and Xanthopoulou et al. only controlled for gender effects but did not examine any moderator effects.

GENDER DIFFERENCES

It has often been postulated, and found, that men and women differ regarding their relationship to work. Females tend to place work second to family and tend to see work more as a duty than as an entitlement (Eby, Casper, Lockwood, Bordeaux, & Brinley, 2005; Porfeli & Mortimer, 2010). Furthermore, social relations tend to be especially important for women. Gender stereotypes specify that women should behave communally, and men agentically (Block & Robins, 1993). According to this stereotype, men should demonstrate dominance, competitiveness, and achievement orientation. Women on the other hand should exhibit nurturing and socially sensitive attributes like helping, caring about others, being kind, sympathetic and understanding (Bosak, Sczesny, & Eagly, 2008; Eagly, Wood, & Johannesen-Schmidt, 2004; Heilman & Okimoto, 2007). These gender stereotypes tend to occur in different cultures, but especially in cultures with high scores on Hofstede's (1998) masculinity dimension (Sczesny, Bosak, Neff, & Schyns, 2004), or individualistic cultures (Steinmetz, Bosak, Sczesny, & Eagly, in press). Women are socialized to be socially competent, and they may utilize their social group to manage stressful situations (Stroud, Salovey, & Epel, 2002; Su, Rounds, & Armstrong, 2009; Taylor et al., 2000). On the other hand, their emotional investment in people makes them psychologically vulnerable to stressful events in their social environment (cf. network events; Kessler & McLeod, 1984; Thoits, 1987), whereas men react more strongly than women to achievement stressors (Stroud et al., 2002).

To the extent that women identify with that stereotype, they might be concerned with high quality jobs less than men, and therefore would profit from such jobs less, compared to men. Furthermore, whereas men can flourish and capitalize on previous successes, women might be penalized because for them success is associated with less perceived likability by others and more interpersonal hostility (Heilman & Okimoto, 2007). Having autonomy and skill variety can be regarded as an indicator for success in the workplace, and may induce less positive reactions from others for women than for men (Block & Robins, 1993; Heilman & Okimoto, 2007; Wood, Christensen, Hebl, & Rothgerber, 1997). Being liked by others strongly influences self-esteem; therefore, even if HQJ fosters self-esteem for women, these positive effects might be neutralized by the negative social messages they often receive.

In terms of research, gender issues have not received much attention. Early research typically focused on men (Frese, 1985; Kornhauser, 1965; cf. Cleveland, Stockdale, & Murphy, 2000); in other studies, gender is used as a control variable (e.g., Xanthopoulou et al., 2009). When gender has been examined systematically, differences between men and women have sometimes been found. Thus, low skill variety increased the risk for heavy alcohol use among men but not among women in a study by Wiesner, Windle, and Freeman (2005), and autonomy related to a decreased risk of disability pension for women but not for men in a study by Vahtera et al. (2010). Furthermore, the meta-analysis by Sonnentag (1996) revealed that autonomy had a closer relationship with job satisfaction for men than for women. Overall, however, results tend to show that women typically do not react very differently to working conditions than men (Kuster et al., 2013; Loscocco & Spitze, 1990; Martocchio & O'Leary, 1989; Rydstedt, Johansson, & Evans, 1998; Sonnentag, 1996). So far, it remains unclear to what extent the often-found lack of gender differences is due to small sample sizes, cross-sectional studies, and difficult comparisons, as men and women are not confronted with the same working conditions (cf. Rydstedt et al., 1998). Further research on these issues is clearly needed. We feel such research should not focus on general questions, such as "do women react differently to work than men", but rather on specific questions.

The arguments presented previously concerning gender stereotypes, their possible internalization by women, and the reactions to successful women by the social environment, suggest that men are more responsive to

high quality work in terms of self-esteem than women. We therefore postulate:

> *Hypothesis 3:* The effect of a high quality job on self-esteem is stronger for men than for women.

Conversely, self-esteem should be more important for women, as compared to men, for *obtaining* HQJs. Compared to men, they encounter more barriers for successful careers (Lent, Brown, & Hackett, 2000). These barriers include external barriers, such as stereotypes about their abilities and their role behaviour (Lent et al., 2000; Luzzo & McWhirter, 2001). Such stereotypes may induce supervisors to be less inclined to assign HQJs to women unless they display especially high self-esteem, whereas for men such behaviour would not be required. Furthermore, as already mentioned, successful behaviour by women may induce irritated, or even hostile, reactions, if they are perceived as not conforming to gender stereotypes (Heilman & Okimoto, 2007) (also cf. the literature on glass cliff, e.g., Ryan & Haslam, 2005, 2009). Self-esteem should help in dealing with such barriers, because high self-esteem should make it easier to not be too strongly affected by such reactions (Brockner, 1998). Barriers may to some extent be internal, as people often internalize gender stereotypes (Eagly et al., 2004). Women seem to have a tendency to emerge less as leaders, especially when the issues involved are task oriented, as compared to relationship oriented (Eagly & Karau, 1991). Thus, having less confidence in themselves than men, and feeling better about themselves when conforming to gender stereotypes, women may seek HQJs less than men (Betz, 2007; Srivastava et al., 2010). Therefore, high self-esteem should be a prerequisite for achieving HQJs for women more than for men.

> *Hypothesis 4:* The effect of self-esteem on high quality jobs is stronger for women than for men.

THE PRESENT STUDY

The aim of this study was to extend knowledge on the relationship between high quality job and self-esteem over time. We used a sample of young Swiss job newcomers, who have completed secondary education (i.e., were not highly educated) to test reciprocal relationship between HQJs and self-esteem. Based on the work by Barling et al. (2003), we used autonomy and skill variety as indicators of HQJ.

METHOD

Participants

We used data from the interdisciplinary Swiss youth panel study TREE (Transition from Education to Employment), which is a follow-up study of PISA (Programme for International Student Assessment). The TREE sample included participants who attended regular public school at the time of the PISA survey (in 2000) and had finished compulsory education at the end of 2000. After filling in the PISA questionnaire, participants were asked to consent to participating in follow-up surveys. A total of 11,710 young people (54% of PISA participants) consented, and provided their addresses, resulting in a sample size of 6343 young adults for the TREE panel study. Annual response rates ranged from 85% to 89%. The TREE panel focuses on the postcompulsory educational and labour market pathways of this school leavers' cohort in Switzerland. The first phase of the study (2000–2003) focused on education during the transition from compulsory school to upper secondary education. At that time, most participants of the panel study were either in general education (e.g., high school; 48%) or in vocational educational training (VET; 33%).[1] The second phase (2004–2007) focused on the transition from upper secondary education to working life (or tertiary education) (Stalder, Meyer, & Hupka-Brunner, 2011). Because of our interest on reciprocal effects between work and self-esteem, we focused our analyses on the second phase of the study, using the four measurement points from 2004 to 2007. Panel participants answered a variety of questions annually in Spring, filling in a written questionnaire or completing a telephone interview (if participants chose telephone interview, a written questionnaire was sent to them afterwards, covering sensitive questions such as questions about well-being or health). The panel chose instruments that are short and of use for various disciplines; therefore, the range of variables we were able to use for our study was limited.

In 2004, 35% of those who still participated in the panel study were employed (n = 1642), most others being in education. We selected for our analyses only participants who were employed during all four waves of the panel study (from 2004 to 2007; n = 856) and participated in all four waves. Due to these selection criteria the sample for this analysis consists of 325 young adults, of whom 202 are female and 123 are male. Twenty-one per cent of the sample worked part time (i.e., less than 40 hours a week but more than 8

[1]After compulsory school young adults need to go through an upper secondary education in order to have a good chance of finding employment. In Switzerland, the most popular options of upper secondary school are Matura Schools (comparable with academically oriented high school curricula) and vocational educational training (VET). VET is attended by more than 60% of Swiss adolescents. There are two types of VET: full-time training in vocational schools, and the more common dual apprenticeship system where individuals have a practical training at work plus professional education in vocational schools. In dual apprenticeship, the young adults are part of the company; therefore, they often perceive themselves as workers rather than as apprentices. For a more detailed overview, see e.g., Kälin et al. (2000) and Stalder and Nägele (2011).

hours per week). The most common economic sectors of employees in this sample were trading (28%), finance and insurance (11%), and production (10%). Seven per cent of our sample had completed compulsory school (until Grade 9), 91% had completed a secondary education (e.g., VET), and 3% a tertiary education (e.g., bachelor's degree). In 2004, the selected sample had a mean age of 19.6 years. Over these 4 years, only five women and two men became a parent (2% of our sample).

Measures

High quality job (HQJ). Autonomy and skill variety were each assessed by the three items of the Short Questionnaire for Job Analysis (Prümper, Hartmannsgruber, & Frese, 1995). Items were rated on a 5-point scale ranging from 1 ("very rare/never") to 5 ("very often/always"). Examples are: "I take part in decision-making about which tasks I have to do" for control and "Can you fully utilize your knowledge and skills in your job?" for skill variety. Cronbach's alpha ranged from $\alpha = .72$ to .80 for autonomy and from $\alpha = .76$ to .79 for task variety.

Self-esteem. Self-esteem was measured with eight of the 10 items from the Rosenberg Self-esteem Scale (Rosenberg, 1979).[2] Participants rated them on a 5-point scale ranging from 1 ("does not apply") to 5 ("applies strongly"). Cronbach's alpha for this scale ranged from $\alpha = .84$ to .87 over the 4 years.

Control variables. Previous research suggests that students from higher socioeconomic backgrounds and those with better performance in school tend to have jobs of better quality. Also, students with lower performance and from lower socioeconomic background tend to have more stressful jobs (Mortimer, Harley, & Staff, 2002). Also, one could argue that HQJ are less relevant for self-esteem if one works part time. Therefore, we included the following control variables in our analyses:

- *Socioeconomic status (SES):* SES was assessed with the initial PISA assessment procedure in 2000. Participants were asked about their parents' occupational status, which was coded according to the International Socio-Economic Index of Occupational Status (Adams & Wu, 2002; Ganzeboom, Graf, & Treiman, 1992).
- *Reading literacy:* Reading literacy was also assessed by PISA in 2000; it refers to "understanding, using, and reflecting on written texts" (OECD, 2003, p. 108). Students' results were divided into five levels, with higher levels indicating higher reading literacy (OECD, 2003).
- *Working hours:* Participants were annually asked "How many hours per week do you work on average?" Mean working hours were 39.7 hours a week ($SD = 11.9$).

[2]To avoid a lengthy questionnaire, the self-esteem scale (as many others) was shortened. Items not used were "I take a positive attitude toward myself" and "I feel I do not have much to be proud of".

RESULTS

Descriptive statistics

Table 1 shows means and standard deviations for autonomy, skill variety, and self-esteem separately for women and men. Women report slightly higher levels of autonomy and lower levels of skill variety. However, the only significant mean difference was found for self-esteem, with women reporting lower levels than men (cf. Table 1). Self-esteem increased over the 4 years, $F(2.77, 893.71) = 10.28$, $p < .001$, and the increase was not different for men and women, $F(2.77, 893.71) = 2.26$, $p > .05$. Autonomy increased slightly for men but was stable for women; however, the gender difference was not significant, $F(1, 323) = 1.35$, $p > .05$. Skill variety was rather stable for both groups, with ps for change and for interaction with gender all >.05. There were no significant gender differences in socioeconomic status. However, women had higher reading skills than men and worked fewer hours per week (cf. Table 1). Table 2 shows correlation coefficients for the study variables.

TABLE 1
Mean and standard deviation of autonomy, skill variety, and self-esteem for women and men

	Women		*Men*		*Independent t-test*		
	M	SD	*M*	SD	*t-value*	*df*	*p*
t4 autonomy	3.80	0.83	3.68	0.94	.95	213	.34
t5 autonomy	3.81	0.80	3.68	0.87	1.12	241	.27
t6 autonomy	3.80	0.81	3.87	0.82	−.59	244	.56
t7 autonomy	3.83	0.83	3.82	0.99	.11	219	.92
t4 skill variety	4.00	0.74	3.93	0.79	.68	212	.50
t5 skill variety	3.88	0.73	3.98	0.78	−.97	241	.34
t6 skill variety	3.78	0.74	4.00	0.82	−2.25	244	.03
t7 skill variety	3.86	0.68	3.87	0.82	−.10	219	.92
t4 self-esteem	3.86	0.70	4.11	0.60	−2.98	273	<.01
t5 self-esteem	3.99	0.62	4.16	0.56	−2.13	269	.03
t6 self-esteem	3.99	0.61	4.23	0.58	−3.06	273	<.01
t7 self-esteem	4.07	0.59	4.17	0.61	−1.23	253	.22
SES	40.9	15.15	38.1	12.22	1.79	284	.07
Reading skills	2.93	1.06	2.63	1.12	2.46	323	.02
t4 working hours	40.29	5.90	42.21	8.31	−2.11	244	.04
t5 working hours	38.57	12.40	42.88	14.65	−2.83	323	<.01
t6 working hours	37.71	9.50	42.15	13.33	−3.50	323	<.01
t7 working hours	37.77	10.76	42.36	11.46	−3.64	323	<.01

SES = socioeconomic status.

TABLE 2
Correlations between autonomy, skill variety, and self-esteem

	t4 auto	*t5 auto*	*t6 auto*	*t7 auto*	*t4 skvar*	*t5 skvar*	*t6 skvar*	*t7 skvar*	*t4 se*	*t5 se*	*t6 se*	*t7 se*	*SES*	*read*	*t4 h*	*t5 h*	*t6 h*
t5 autonomy	.48**																
t6 autonomy	.52**	.58**															
t7 autonomy	.51**	.46**	.62**														
t4 variety	.42**	.31**	.19*	.16*													
t5 variety	.21**	.47**	.21**	.22**	.59**												
t6 variety	.34**	.20**	.43**	.37**	.33**	.52**											
t7 variety	.28**	.27**	.27**	.49**	.23**	.37**	.49**										
t4 self-esteem	.08	.12	.17*	.11	.09	.16*	.27**	.10									
t5 self-esteem	.14	.19**	.19**	.18**	.07	.23**	.26**	.17*	.68**								
t6 self-esteem	.10	.13	.20**	.19**	.09	.26**	.31**	.19**	.64**	.78**							
t7 self-esteem	.03	.03	.10	.17*	.03	.15*	.27**	.25**	.67**	.68**	.75**						
SES	−.03	−.03	−.01	−.09	.09	.04	.02	−.09	.15*	.16*	.12	.02					
Reading skills	.04	.01	−.00	−.01	.08	.12	.03	.04	.10	.14*	.06	.03	.21**				
t4 working hours	.05	.07	.10	.03	.05	.07	.10	.03	.02	.06	.06	.01	.11	−.01			
t5 working hours	.26***	.33***	.14*	.08	.26***	.33***	.14*	.08	.01	.03	−.12*	−.12*	−.09	−.11*	.19**		
t6 working hours	.30***	.27***	.32***	.18**	.30***	.27***	.32***	.18**	−.03	−.03	−.02	−.08	−.03	−.21***	.30***	.56***	
t7 working hours	.18***	.21***	.20***	.26***	.18**	.21***	.20***	.26***	−.80	−.02	−.10	−.09	−.05	−.17***	.23***	.39***	.53***

auto = autonomy; skvar = variety; se = self-esteem; read = reading skills; h = working hours. SES = socioeconomic status. $^{*}p < .05$, $^{**}p < .01$, $^{***}p < .001$.

Analysis

To test our hypotheses we conducted cross-lagged regression analysis within structural equation modelling, using the Mplus 7 program (Muthén & Muthén, 1998–2012). In cross-lagged models, the reciprocal effects between two variables are estimated over time. A latent variable at time *n* is predicted by its autoregression and by the cross-lagged path from the other latent variable in the structural model at time *n*–1. With this procedure it is possible to estimate the effect of one variable on the other while controlling for stability over time (Finkel, 1995; Little, Preacher, Selig, & Card, 2007). Missing values were dealt with by the full information maximum likelihood procedure. This approach results in a more reliable and less biased estimation than conventional methods such as listwise or pairwise deletion (Schafer & Graham, 2002). We used parcels as indicators. Using the items as indicators would have resulted in a very high number of parameters to be estimated. Furthermore, parcels are more reliable, increase normality in distributions, and result in smaller, and more equal distances between values (Little, Cunningham, Shahar, & Widaman, 2002). For self-esteem, we randomly aggregated the items into three parcels, two of which contained 2 items, the third one 3 items. For the latent factor HQJ we used autonomy and skill variety as indicators, with three items each. This way of parcelling is appropriate for constructs that are not unidimensional (Bagozzi & Edwards, 1998; Hall, Snell, & Foust, 1999).

Model fit was assessed by Comparative Fit Index (CFI) and the Root Mean Square Error of Approximation (RMSEA). Good fit is indicated by values close to .95 for CFI and less than or equal to .06 for RMSEA (Hu & Bentler, 1999; Kline, 2005; MacCallum & Austin, 2000). We also report the chi-square statistics. As chi-square depends strongly on sample size and almost inevitably is significant with a sample size such as ours (e.g., Schermelleh-Engel & Moosburger, 2003), we focus on the other goodness-of-fit criteria.

Turnover could be an explanatory variable for changes in job quality over time. For Waves 5 to 7, turnover information is available, as respondents were asked whether they changed their employer. Turnover from Wave 4 to 5 is available as a proxy only, using company codes taken from the Swiss Business and Enterprises Register (Swiss Federal Statistical Office, 2013). If between two waves company codes do not match, this designates change of employer (Swiss Federal Statistical Office, 2013). When we estimated our models including turnover as a control variable, none of the results reported here were affected.

Measurement models

Before testing structural relationships, we tested the measurement models for self-esteem and HQJ. The

three self-esteem parcels loaded well on a single factor, with factor loadings ranging from $\lambda = .71$ to $\lambda = .90$ with all $ps < .001$. Model fit was good for a model without constraints on the factor loadings, $\chi^2 = 29.5$, $df = 30$, CFI = 1.00, RMSEA < .01, 90% CI RMSEA = .00–.04, as well as for a model in which the indicators for self-esteem were constrained to be equal over time, $\chi^2 = 34.4$, $df = 34$, CFI = 1.00, RMSEA < .01, 90% CI RMSEA = .00–.04; the chi-square difference was not significant, $\Delta\chi^2 = 4.9$, $\Delta df = 6$, $p > .05$, indicating that the model with metric invariance can be upheld. Similarly, a model that constrained the loadings for men and women to be equal, $\chi^2 = 99.4$, $df = 86$, CFI = 1.00, RMSEA = .03, 90% CI RMSEA = .00–.06, did not significantly differ from a model in which the coefficients for men and women were allowed to vary, $\chi^2 = 97.8$, $df = 84$, CFI = 1.00, RMSEA = .03, 90% CI RMSEA = .00–.06; $\Delta\chi^2 = 1.6$, $\Delta df = 2$, $p > .05$. Therefore, we assumed the measurement model to hold for females and males.

The measurement model for HQJ contains autonomy and skill variety. A model with two factors consisting of three items each for autonomy and skill variety, respectively, fitted the data well, $\chi^2 = 427.1$, $df = 202$, CFI = .92, RMSEA = .06, 90% CI RMSEA = .05–.07, all items loaded significantly on their latent factor ranging from $\lambda = .68$ to $\lambda = .83$, and skill variety and autonomy correlated significantly with each other (average cross-sectional correlation $r = .60$, $p < .001$). This model showed a better fit, $\Delta\chi^2 = 240.8$, $\Delta df = 23$, $p < .01$, than a one-factor model with all six items as indicators, $\chi^2 = 667.9$, $df = 225$, CFI = .83, RMSEA = .08, 90% CI RMSEA = .07–.09. However, the construct of HQJ is not unidimensional; for such constructs, the use of parcels that represent the facets are recommended by many authors (e.g., Bagozzi & Edwards, 1998; Hall et al., 1999; Little et al., 2002). This way of parcelling diminishes the risk of misspecification and explicitly models the multidimensionality. Modelling HQJ that way (i.e., by using the means of skill variety and autonomy as indicators), resulted in a good fit, $\chi^2 = 14.0$, $df = 6$, CFI = .99, RMSEA = .06, 90% CI RMSEA = .02–.09, which was significantly better than the fit of the two-factor model, $\Delta\chi^2 = 413.1$, $\Delta df = 196$, $p < .01$. We therefore used HQJ as a single construct with skill variety and autonomy as indicators.

In the model just described, both factor loadings were not only constrained to be equal over time, but set to 1 (as recommended by Little et al., 2002). The same model without constraining factor loadings fitted the data reasonably well, $\chi^2 = 6.7$, $df = 2$, CFI = .99, RMSEA = .09, 90% CI RMSEA = .02–.17, but not better, $\Delta\chi^2 = 7.3$, $\Delta df = 4$, $p > .05$; factor loadings were significant and ranged from .52 to .83. Testing for gender differences, the model with unconstrained factor loadings across groups, $\chi^2 = 14.1$, $df = 12$, CFI = 1.00, RMSEA = .03 CI RMSEA = .00–.09, did not differ significantly from the constrained model, $\chi^2 = 22.3$, $df = 16$, CFI = .99, RMSEA = .05, CI RMSEA = .00–1.00; $\Delta\chi^2 = 8.2$, $\Delta df = 4$, $p > .05$. Therefore, we assumed no gender differences in our measurement models.

Cross-lagged analysis

The first cross-lagged model we estimated contained no constraints on all structural paths (stabilities and cross-lags freely estimated; $\chi^2 = 363.6$, $df = 232$, CFI = .96, RMSEA = .04, 90% CI RMSEA = .03–.05. In this model as well as in all models reported below we controlled for SES, reading literacy, and working hours (cf. Mortimer et al., 2002) by regressing HQJ on SES, reading literacy, and working hours (Little et al., 2007). Constraining stabilities and cross-lagged paths to be equal over time yielded a similar fit, $\chi^2 = 378.9$, $df = 240$, CFI = .96, RMSEA = .04, 90% CI RMSEA = .03–.05, and no significant difference to the unconstrained model, $\Delta\chi^2 = 15.3$, $\Delta df = 8$, $p > .05$. Yearly stabilities were rather high for both self-esteem, $\beta = .79$, $p < .001$, and HQJ, $\beta = .68$, $p < .001$, over these 4 years. Of the cross-lagged associations, only the path from self-esteem to HQJ was significant, $\beta = .13$, $p < .01$. The reversed effect, from HQJ on self-esteem the next year just missed conventional statistical significance, $\beta = .06$, $p = .06$ (cf. Table 3). The pattern found therefore is in line with our assumptions, but only Hypothesis 2 receives unequivocal support, in that self-esteem had a positive effect on HQJ over time. Hypothesis 1, which postulated that HQJ would predict self-esteem, was only weakly supported. The model explains 63% of the variance in self-esteem in 2007, and 56% of the variance in HQJ in 2007.

Multigroup cross-lagged analysis. Next, we estimated the cross-lagged model as a multigroup model. We allowed the cross-lagged coefficients and stabilities to vary between females and males. This model fitted the data reasonably well, $\chi^2 = 798.1$, $df = 502$, CFI = .91, RMSEA = .06, 90% CI RMSEA = .05–.07. Constraining these coefficients to be equal across groups rendered model fit significantly worse, $\chi^2 = 804.3$, $df = 504$,

TABLE 3
Standardized coefficients for the whole sample and multigroup cross-lagged analysis with 1-year time lags

	Overall	*Women*	*Men*
Stability self-esteem	.79***	.81***	.70***
Stability HQJ	.68***	.57***	.79***
Cross-lagged coefficient from self-esteem to HQJ	.13**	.14*	.10 ($p = .09$)
Cross-lagged coefficient from HQJ to self-esteem	.06 ($p = .06$)	.05 (*ns*)	.16*

HQJ = high quality job. *$p < .05$, **$p < .01$, ***$p < .001$.

CFI = .91, RMSEA = .06, 90% CI RMSEA = .05–.07, $\Delta\chi^2 = 6.2$, $\Delta df = 2$, $p < .05$. Table 3 shows the estimated model parameters of the cross-lagged model for both groups.

The model reveals a higher stability in self-esteem but a lower stability for HQJ for women as compared to men. With regard to the cross-lagged paths, the expected gender differences were found: Self-esteem predicted HQJ over time only for women, whereas HQJ predicted self-esteem only for men. However, we found a weak indication of reciprocal relationship between self-esteem and HQJ in men, for whom the lagged effect from self-esteem on HQJ showed a statistical tendency, $\beta = .10$, $p = .09$ (cf. Table 3). These results are in accordance with Hypotheses 3 and 4, although support for Hypothesis 4 is only weak. The model explains 67% variance in women's self-esteem, 54% in men's self-esteem, 43% in women's HQJ, and 65% in men's HQJ.

Two-year and 3-year time lags. A model with lags of 2 years revealed no significant cross-lagged effect for women. For men, self-esteem predicted HQJ 2 years later, $\beta = .32$, $p < .01$. A model with 3-year time lags revealed no significant lagged effects between HQJ and self-esteem for both groups. These findings support the assumption that associations between self-esteem and HQJ, if present, appear more likely for shorter time frames. However, for men we found an indication of a reciprocal relationship between self-esteem and HQJ, although the effect of HQJ on self-esteem appeared for the 1-year lag, whereas the effect of self-esteem on HQJ was found for the 2-year lag.

DISCUSSION

This research had two goals: first, to investigate reciprocal relationships between HQJ and self-esteem with multiple measurements over a period of several years, and second, to investigate possible gender differences in these associations. For the sample as a whole, our results showed that self-esteem positively predicted obtaining a high quality job in the following year. The reversed path, from having an HQJ to self-esteem, just missed statistical significance. Thus, in spite of plausible arguments for reciprocal effects, only the path from self-esteem to HQJ was clearly significant. However, these results were qualified by significant gender differences. We expected effects from having an HQJ on self-esteem to be stronger for men than for women, and effects of self-esteem on obtaining an HQJ to be stronger for women than for men. The multigroup cross-lagged model confirmed this assumption for a 1-year time lag. Self-esteem significantly predicted obtaining an HQJ over time only for women, although there was a tendency for men. If women have high self-esteem, they may seek, and obtain, HQJs, and they may craft their job characteristics accordingly. Furthermore, supervisors may be more inclined to assign such jobs to women if they display self-confidence. For men, the lagged effect from self-esteem on obtaining high quality job was weaker, but the inverse effect was significant. In line with our assumptions, men tended to benefit from high autonomy and skill variety in terms of self-esteem. That high levels of autonomy and skill variety may signal responsibility, competence, and trust from the organization, offer opportunities for professional learning, personal accomplishment, and mastering of challenges, and thus the experience of personal growth (Hackman & Oldham, 1980), seems to be especially important for men. Experiencing competence at work, appreciation by others, and successful coping with challenging situations may boost men's self-esteem over time.

Our findings reveal that young men and women do react differently towards HQJs. We argued that men would base their self-esteem on achievement more than women (Cross & Madson, 1997), which led to the hypothesis of a stronger effect of HQJ on self-esteem for men. Conversely, we argued that women would encounter more barriers for obtaining HQJs, as these indicators of achievement do not conform to female stereotypes (Eagly et al., 2004). Women therefore would need special qualities to overcome these barriers, both to demonstrate to others that they deserve HQJs, but also to fight personal tendencies not to seek such job characteristics, or to give up early if external barriers (e.g., negative reactions to their success; Heilman & Okimoto, 2007) are encountered. The pattern of our results are in line with this reasoning; however, it does not constitute a direct test, as we measured only HQJ but not the mechanisms postulated to be involved. Thus, we do not know to what extent women in our sample actually did value work less, and other domains, such as family, more than men, if such values would explain the findings, act as moderators, and the like. However, an interesting finding by Caplan and Schooler (2006), does support our reasoning concerning the importance of HQJ for men versus women. Caplan and Schooler report that household work complexity predicted higher self-confidence for women but lower self-confidence for men, and they argue that these results are due to women, in contrast to men, basing their self-esteem on a domain (household) that corresponds to female stereotypes.

One could argue that our sample is rather young, less inclined to accept traditional gender stereotypes, and not yet involved in parenting duties (only 2% of our sample became parents during the study). For a number of reasons, this argument seems not very convincing. First, the Swiss labour market is still characterized by a strong gender segregation, with women working in typical "female" occupations (e.g., [primary] school teacher, nurse) and men in typical "male" occupations (e.g., information technology, skilled crafts, and trades) (Charles & Grusky, 2004). Indeed, another study on

Swiss adolescents (the ÆQUAS study; Kälin et al., 2000) had only one single woman among 121 participants working in electronics, and only 16 males among 153 nurses. Furthermore, the ÆQUAS study yielded a clear gender difference in response to questions about future plans in terms of reducing work and focusing more on family duties, with women scoring higher from the beginning (i.e., at the age of about 20 years; Semmer, Tschan, Elfering, Kälin, & Grebner, 2005). Thus, although there has been a shift for women from almost exclusive family roles to family and working roles (Charles, 2000; Twenge, 2001), accompanied by increased endorsement of masculine-stereotyped traits such as assertiveness for women (Twenge, 1997, 2001), traditional gender stereotypes have not disappeared in Switzerland, which is described as an individualistic culture and tends to report high scores on the masculinity dimension (Hofstede, 1998), making it likely that traditional gender stereotypes also apply to Switzerland. As a consequence, women may conceive a good workplace more in terms of possibilities for part-time work, for return to work after a maternity leave, etc. than in terms of a high quality job in terms of autonomy and skill variety (cf. Eby et al., 2005; Porfeli & Mortimer, 2010). It is conceivable, however, that these gender-related differences will become smaller in the future.

One could also argue that our results are due to HQJs having a different meaning for men and women. Thus, it is possible that women judge their autonomy and skill variety as high in relation to other women; at the same time, they may be aware that men tend to have more of these characteristics, and that "male" occupations receive more social recognition (cf. Charles, 2000). To the extent that a job that is perceived as "high quality" in comparison to women but not in comparison to men, it might be less of a source for high self-esteem for women than for men. This explanation would, however, be difficult to apply to the effect of high self-esteem on HQJ.

Limitations and future research

Our sample consisted of young workers just entering the labour market. Therefore, the ability to generalize these results to older workers is likely to be restricted. This limitation is especially important because the stability of self-esteem is likely to increase with age (Trzesniewski et al., 2003). Also, our study used questionnaire data exclusively. For longitudinal panels with many waves, it is often not possible to obtain assessment with alternative measurement. Nevertheless, future research may use additional sources, such as workplace observations. Having a second source for job design features may also help to understand if young adults with high self-esteem actually attained HQJs or if they just perceive them as favourable.

Regarding further research, gender differences deserve more attention in research in work and organizational psychology. Rather than only controlling for gender, gender differences should be investigated systematically. Our results suggest that such differences may not be found overall but specifically with regard to specific variables. Thus, although young men seem to benefit from HQJs in terms of self-esteem, such differences may not be found for other characteristics of work or for other indicators of well-being. For instance, the association between work stressors and well-being does not seem to differ between men and women (Martocchio & O'Leary, 1989; Sonnentag, 1996). We feel that, specifically, sources at work for women's self-esteem should be investigated in more detail. In addition, the specific mechanisms involved should be investigated. We based our hypotheses on considerations regarding gender stereotypes, which may lead to external as well as internal barriers. Although there is evidence for such processes to operate (cf. Eagly et al., 2004; Heilman & Okimoto, 2007), they need to be investigated with regard to women's seeking of, obtaining, and profiting from, HQJ. Furthermore, possible moderators need more attention, for instance in terms of the value people place on work, family, etc. Such moderators should be investigated within gender.

Practical implications

For men, our results support the implications of many theories of job design (e.g., Hackman & Oldham, 1980; Humphrey et al., 2007; Parker & Wall, 1998). As men benefit from HQJs in terms of boosts to their self-esteem over time, companies and supervisors should offer opportunities for using different kinds of skills, to learn new techniques, to engage in new tasks and projects, to plan the work and its execution on their own, and to take on responsibilities.

Women, on the other hand, need to have high levels of self-esteem in order to obtain jobs with high quality features. Career counselling may support young women in finding jobs with challenging working conditions (Betz & Schifano, 2000). Supervisors should give women opportunities to show their capability of mastering working conditions characterized by high autonomy and skill variety and support them in attributing mastery of such challenges to themselves and in interpreting such mastery not in terms of a lack of female qualities. Furthermore, they should react to signs of tension among employees that might be due to some employees resenting women demonstrating mastery. At the same time, however, they should try to help women maintain a good balance between mastery experiences in terms of successfully dealing with high quality job design, and other important life goals (e.g., by supporting women in balancing work and family roles). Furthermore, supervisors may be encouraged to question their own spontaneous judgement about women's interests and capabilities. Considering low self-esteem as an important

hindrance for women, they might support and encourage women who do not display high self-esteem, and protect women who do display high self-esteem against critical reactions of others.

In sum, we only found weak indications for the plausible assumption of reciprocity between high quality job and self-esteem, but we found different patterns for men and women in the association between HQJs and self-esteem over time. Our results suggest that men profit from HQJs in terms of self-esteem but that women need high self-esteem in order to obtain high quality jobs.

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