

Radboud University



Gifted and burnout in the workplace: A mixed methods study

Name: Akkelijn A. Elshof
Email address: akkelijn@home.nl
Student number: 4115473
Institution: Radboud University, Nijmegen
Commissioned by: Gifted Adults Foundation, Delft
Date: 27-06-2016

GIFTED AND BURNOUT IN THE WORKPLACE: A MIXED METHODS STUDY

AKKELIJN A. ELSHOF

Radboud University

Prior studies investigated burnout or giftedness behavior. However, burnout among gifted individuals was not tested before. This study investigates burnout among gifted individuals and aims at exploring which aspects add for burnout and which aspects buffer burnout among gifted individuals. An explorative mixed methods research design is used. The qualitative study identified key aspects that may add for a gifted individual's burnout, of which one aspect that also serves as a buffer for burnout. Based on these aspects, a conceptual model was build, (partially) based on the existing Job Demands-Resources (JD-R) model. In general, the quantitative analysis confirms the qualitative data analysis. Mainly supervisor support, coworker support, not knowing limits and perfectionism were identified as key aspects in burnout in the quantitative analysis. This study gives an in-depth elaboration of aspects that contribute to burnout among gifted individuals. The elaboration helps finding interventions or finding ways for amplification for gifted individuals.

Keywords: Gifted adults, burnout, Job Demands-Resources model, mixed methods

INTRODUCTION

In psychological and pedagogic journals, much attention has been paid to giftedness (e.g. American Psychologist: 2000; Gifted Child Quarterly: 1984). Gifted individuals can be described as intelligent thinkers (1) who can handle complex cases, (2) who are autonomous, curious and passionate by nature, (3) who are sensitive and emotional, characterized as intensely alive and (4) who like to be creative (Kooijman-van Thiel, 2008). In general and in a strict sense, giftedness is measured by intelligence tests. Gifted individuals score at least 130 on intelligence tests, on which a score between 90 and 110 is seen as average (Nauta & Ronner, 2007; Resing & Drenth, 2007).

Relatively few studies involved the working conditions and behaviors of gifted adults in comparison to the working conditions and behaviors of gifted children (Nauta & Corten, 2002; Nauta & Ronner, 2007; Persson, 2009; Rinn & Bishop, 2015). Some studies showed giftedness having its advantages and disadvantages in the workplace (e.g. Lovecky, 1986; Streznewski, 1999; Waal, Nauta & Lindhout, 2013). For example, Streznewski (1999) states gifted individuals can face negative consequences of their giftedness, such as boredom and feelings of being misunderstood by one's colleagues and employers. Another possible negative consequence of giftedness is burnout (Nauta & Ronner, 2007). Burnout can be described as "a

syndrome of emotional exhaustion and cynicism” (Maslach & Jackson, 1981, p.99). Overall, the number of employees having a burnout is increasing. In the Netherlands, one out of seven employees faced burnout in 2015 (CBS/TNO, 2015). Burnout is more common among gifted individuals compared to non-gifted individuals (Nauta & Ronner, 2008). It is unclear what characteristics of a gifted individual or aspects visible for gifted individuals play a role in the occurrence of burnout and which aspects could buffer burnout. The research goal of this study is exploring which aspects add to and which aspects buffer burnout among gifted individuals.

There is a great need to investigate burnout among gifted individuals. Gifted individuals can have a great contribution to organizations as they embrace many (unique) talents (Nauta & Ronner, 2008). These (unique) talents could be constrained when a gifted individual faces burnout. When the (unique) talents of gifted individuals cannot be used to their full potential, a loss in organizational performance and a loss of the knowledge economy occurs (Nauta & Ronner, 2008; Corten, Nauta & Ronner, 2006). Therefore, an in-depth investigation of the phenomenon of burnout among gifted individuals should be conducted. The results of this study help gaining an understanding of the burnout process among gifted individuals. By rendering the results from this study to employers, measures can be taken to improve the working conditions of gifted individuals, which for example lowers their sickness leave, while the employer enjoys the benefits of having a highly intellectual employee who possess great talents. A description the burnout process among gifted individuals can also be used to educate gifted individuals and help gifted individuals finding ways to prevent burnout. An early detection of signs of burnout among gifted individuals may also lead to more effective ways for intervention.

In order to accomplish the research goal, a mixed methods design has been used, more specifically the ‘exploratory sequential design’ (ESD, Creswell & Plano Clark, 2007). In an ESD mixed methods design, one first collects and analyses qualitative data in order to empirically explore a phenomenon. For this study, aspects that play a role in burnout among gifted individuals are explored. After the qualitative data collection and analysis, quantitative data is collected and analyzed to confirm or disconfirm results from the qualitative analysis. In both the qualitative and quantitative study, respondents were recruited by use of the Gifted Adults Foundation newsletter, giftedness forums and relevant LinkedIn groups. Both studies are conducted in cooperation with Dr. Noks Nauta, MD, psychologist of work and organization and co-founder of the Gifted Adults Foundation (in Dutch: IHBV) and supervised by Dr. Alain De Beuckelaer of the Radboud University, both located in the Netherlands.

In the next section, giftedness and burnout will be elaborated on, using two theoretical frameworks. Giftedness is elaborated on with the Delphi-model of giftedness (Kooijman-Van

Thiel, 2008) and burnout is elaborated on with the Job Demands-Resources model (JD-R model, e.g. Bakker & Demerouti, 2006).

GIFTEDNESS

Several authors have made characterizations and/or models about giftedness, for example Lovecky's characterization of giftedness (1986) and the Wisdom-Intelligence-Creativity-Synthesized (WICS) model (Sternberg, 2003). The giftedness model used for this study is the Delphi-model of giftedness (Kooijman-Van Thiel, 2008, see Figure 1). The Delphi-model was relied on as this model does not reason from a purely cognitive, psychological or economic point of view, but looks at the usability of being gifted in the daily life, which also includes the workplace (Kooijman-Van Thiel, 2008). The Delphi-model is also one of the few models that does not consider being gifted and being highly intelligence as equal, as has been argued before by many authors (Kooijman-Van Thiel, 2008). The Delphi-model also incorporates pitfalls and qualities of work for gifted individuals, which can be linked to the workplace. As this study focuses on gifted individuals in the workplace, the Delphi-model is most legitimate to use.

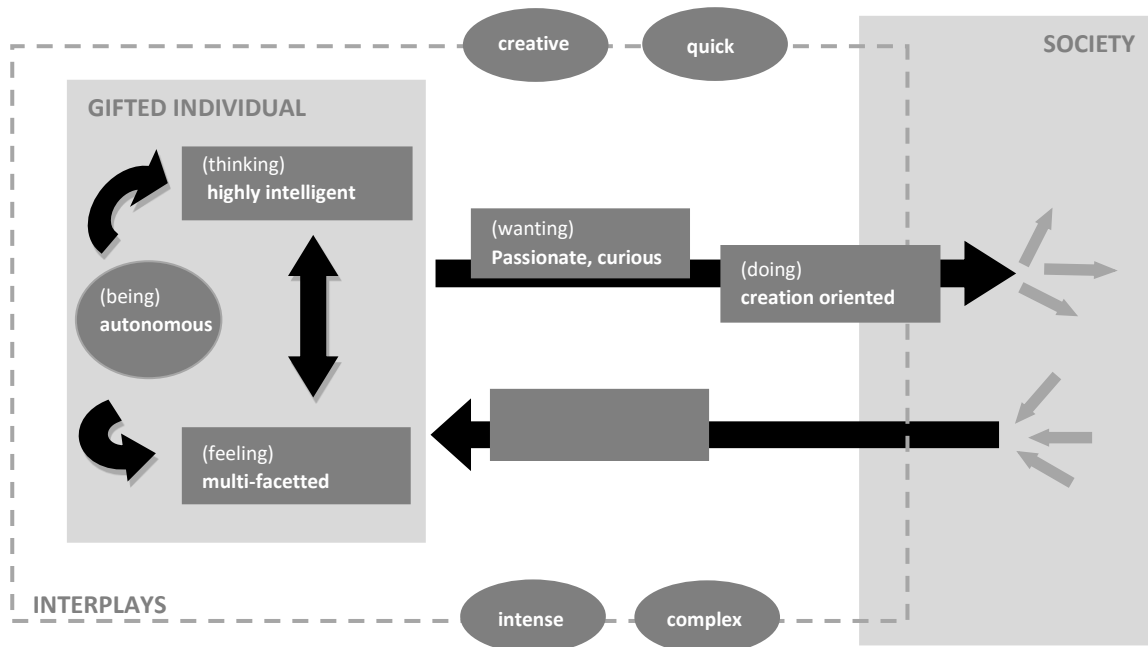
The basic principle of the Delphi-model is that the gifted individual, as every non-gifted individual, is in contact with society and can therefore not be excluded from society. The Delphi-model (see Figure 1) displays two big blocks which represent the inner self of the gifted individual (left block, labeled gifted individual) and society (right block). Six existential facets are placed over these blocks (the little grey squares; see Figure 1). These existential facets are labeled 'being', 'thinking', 'feeling', 'wanting', 'doing' and 'observing'. For each of these existential facets, characterizations are made:

- 'being' is characterized as autonomous;
- 'thinking' is characterized as highly intelligent;
- 'feeling' is characterized as multi-facetted;
- 'wanting' is characterized as passionate and curious;
- 'doing' is characterized as creation directed;
- 'observing' is characterized as highly sensitive.

The existential facets are subdivided between inner and interactive facets. The inner facets are 'being', 'thinking' and 'feeling', which are represented in the 'Gifted Individual' block of the

FIGURE 1

The Delphi-model of giftedness (Kooijman-Van Thiel, 2008)



Note: rectangles represent existential facets; circles represent interplays; one-headed arrows represent a flow of incentives; the double headed arrow represents a mutual influence and the dotted line represents the interplays influencing all existential facets

Delphi-model (see Figure 1). The interactive facets describe the interaction of the gifted individuals with society. These interactive facets are ‘wanting’, ‘doing’ and ‘observing’ and are depicted between the ‘Society’ block and ‘Gifted Individual’ block of the Delphi-model (see Figure 1). The Delphi-model shows different interactions within and between the facets, which are depicted with arrows¹.

Around these existential facets of the Delphi-model (see Figure 1) there are interplays, depicted in Figure 1 with a dotted line. The interplays refer to the nature and interaction between the existential facets. The interplays are labeled ‘creative’, ‘quick’, ‘intense’ and ‘complex’ and are depicted in grey circles. The interplay called ‘creative’ reflects the ability of the gifted individual to have creative ideas, seeing unusual connections and being imaginative. This ‘creative’ interplay can be observed in the ‘thinking’, ‘wanting’ and ‘doing’ facets of the Delphi-model. The ‘quick’ interplay refers to the gifted individual being able to process information fast and to be able to quickly proceed further with information. This ‘quick’ interplay can be observed in all facets (‘being’, ‘thinking’, ‘feeling’, ‘wanting’, ‘doing’ and

¹ What should be noted here is that all three inner facets can be influenced by the observing facet and all three inner facets influence the wanting facet.

‘observing’). The ‘intense’ interplay refers to the high sensitivity of the gifted individual and can be observed in the ‘feeling’, ‘thinking’ and ‘wanting’ facets. The ‘complex’ interplay refers to the gifted individual being a complex creature that can handle a great deal of complexity. This ‘complex’ interplay can be observed in the ‘thinking’, ‘feeling’, ‘wanting’, ‘doing’ and ‘observing’ facets. A gifted individual does not need to fit with all facets; some facets could be highly visible with the gifted individual, others facets could be weakly visible². In addition to the Delphi-model, the Gifted Adults Foundation identified qualities and pitfalls for gifted individuals during work for each of the facets and interplays depicted in the Delphi-model (IHBV, 2014; see Table 1).

TABLE 1
Qualities and pitfalls at work of gifted individuals (IHBV, 2014)

Existential facets	Qualities at work	Pitfalls at work
Being	Independent	Very headstrong, conflicts
Thinking	Quick overview, quick expertise	Judges too fast, skips steps
Feeling	Nuanced	Too emotional
Wanting	Driven and curious	Unstoppable
Doing	Productive	Does many unnecessary things
Observing	Sees a lot	Oversensitive to stimuli
Interplays	Qualities at work	Pitfalls at work
Creative	Creative, innovative	No direction
Complex	Good overview	Gets stuck on the details
Intense	Very involved	Does not know own limits
Quick	Fast, quick to learn new things	Loses contact with others

Table 1 shows that facets and interplays could transform towards qualities or pitfalls at work. When gifted individuals cannot express their qualities existing from the facets and interplays, these facets and interplays transform to pitfalls. The pitfalls occur mainly when there is a lack of balance between or within the facets. The qualities and pitfalls at work for gifted individuals are of interest of this study, as pitfalls (and qualities) can be linked to gifted individuals and a (buffer of) burnout. Burnout is further elaborated on in the next section.

² What should be noted is that even though these interplays seem to be visible in particular facets, they do address the whole cycle between the gifted individual and society depicted in the Delphi-Model (see Figure 1).

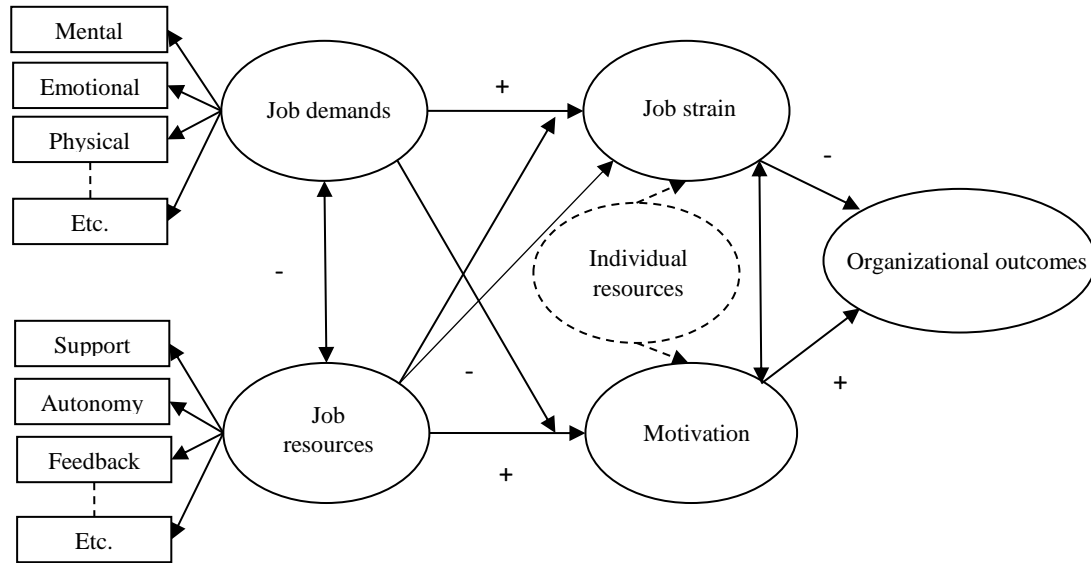
BURNOUT

In the general introduction, burnout has been defined as “a syndrome of emotional exhaustion and cynicism” (Maslach & Jackson, 1981, p.99). In burnout, a subdivision can be made in three dimensions (Maslach, 1982). The first dimension is emotional exhaustion, which entails the reduction of emotional resources and manifests in the individual as feelings of being used up, frequent irritability, frustration and feelings of being worn out (Maslach & Jackson, 1981). The second dimension is depersonalization, which consists of cynicism and disengagement of the individual on the job (Maslach & Jackson, 1981). Indicators of depersonalization are detachment and emotional harshness and cynical behaviors (Cordes & Dougherty, 1993). The third dimension is reduced personal accomplishment, which implies the devaluation of the individual’s perception of his or her performance. Indicators of reduced personal accomplishment are unhappiness of the individual about him or herself and dissatisfaction of the individual about his or her own performance (Maslach & Jackson, 1981).

Besides definitions of burnout, prevailing burnout literature illustrated several models concerning burnout (e.g. Halbesleben & Buckley, 2004; Schaufeli, Maslach & Marek, 1993). Examples of these models are the Conservation of Resources Model (COR; e.g. Hobfoll, 1988) and the Effort Reward Imbalance model (e.g. Siegrist, 1996). The model used for the examination of the relationship between gifted individuals and burnout in this study is the JD-R model (see Figure 2; e.g. Bakker & Demerouti, 2006, Bakker, Demerouti & Verbeke, 2004, Bergsma & Schaufeli, 2013). The JD-R model is most useful to incorporate in this study, as it is the only model that depicts aspects of the job as well as individual aspects (i.e. possible giftedness characteristics) that could act as stressors or buffers for burnout in the workplace (burnout being incorporated in the construct ‘job strain’ in Figure 2). The main assumption of the JD-R model is that there are two general categories in which factors of burnout can be classified, which are job demands and job resources (Bakker & Demerouti, 2006). The first category, ‘job demands’, refers to the physical, psychological, social or organizational aspects of the job that require physical and/or psychological effort or skills from the individual. What should be noted here is that job demands are not necessarily serving as stressors for burnout; job demands turn into stressors when the effort required from the individual to deal with the job demands are not sufficiently covered (Meijman & Mulder, 1998). Examples of job demands are high work pressure, role overload, emotional demands and poor environmental conditions (e.g. Bakker et al., 2004). The second category, ‘job resources’, refers to the physical, psychological, social or organizational aspects of the job that help in achieving work

FIGURE 2

The Job Demands-Resources model



Note: single headed arrows represent causal relationships; double-headed arrows represent mutual causal relationship; rectangles represent examples of components of the constructs represented in the circles; the dotted circle represents the construct added by Bergsma & Schaufeli (2013); the dotted single headed arrow represents the causal relationship added by Bergsma & Schaufeli (2013).

goals, help to reduce job demands and/or help to stimulate personal growth, learning and development (Bakker & Demerouti, 2006). Examples of job resources are career opportunities, supervisor and coworker support, role clarity and autonomy (e.g. Bakker et al., 2004).

Job demands and job resources each have their own ‘processes’. In the upper half of the JD-R model, ‘job demands’ represent the exhaustion process. In the lower half of the JD-R model, ‘job resources’ represent the motivational process. Aligned to these processes are four ‘propositions’, which illustrate the relation between the constructs depicted in Figure 2. The first proposition of the JD-R model concerns the exhaustion process; job demands can lead to the development of job strain³ (including burnout). The greater the effort of the individual to meet its demands, the more job strain the individual experiences (Bakker & Demerouti, 2006). The second proposition of the JD-R model concerns the motivational process; job resources may influence the development of motivation, as “job resources have motivational potential and lead to high work engagement, low cynicism and excellent performance” (Bakker & Demerouti, 2006, p. 313). The exhaustion and motivational process are related to each other. This relation is depicted in the third and fourth proposition. The third proposition of the JD-R

³ In the study of Bakker and Demerouti (2006), job strain is described as the depletion of energy (i.e. a state of exhaustion) and health problems.

model includes job resources possibly buffering the impact of job demands on job strain. The fourth proposition of the JD-R model includes job resources influencing motivation when job demands are high. The proposition emphasizes that the amount of job resources determines to which extent job demands influences the motivation of the individual. However, as burnout is the focus of this study, motivation will not be further elaborated on.

Bergsma and Schaufeli (2013) added the construct ‘personal resources’ in the JD-R model (in Figure 2 renamed to ‘individual resources’ and depicted with a dotted circle and dotted single headed arrows), as they argue that characteristics of the individual can moderate the effects of job demands against job strain. Bergsma and Schaufeli (2013) argue that personality traits in the individual resources construct can strengthen the exhaustion process of job demands to job strain.

In another research of the JD-R model, Hakanen, Schaufeli and Ahola (2008) tested the direct impact of job resources on burnout in a two-wave study among 2555 Finnish dentists. Hakanen et al. (2008) found a negative correlation, as indicated by a negative regression coefficient, between job resources and burnout ($\beta = -0.05$, $p < .05$). Therefore, an arrow is depicted between job resources and job strain in Figure 2. In the next section, the methods used for this study are discussed.

METHODS

Justification of the research design

The research goal of this study is exploring which aspects add to and which aspects buffer burnout among gifted individuals. For this study, qualitative research is employed to explore the unknown aspects that play a role in the relationship between giftedness and burnout. By subsequently quantitatively testing the relationships identified by the qualitative study, the aspects found in the qualitative phase are evaluated (Creswell & Plano Clark, 2007). Firstly, the qualitative study is elaborated on, followed by the elaboration of the quantitative study.

The qualitative study

Sample and procedures. The data was collected from gifted individuals (N=10), which were recruited by use of an online advertisement (see Appendix A). The Gifted Adults Foundation itself recruited respondents by placing the online advertisement in the Gifted Adults Foundation newsletter, relevant LinkedIn groups and giftedness forums. Three selection criteria were upheld. The first selection criterion was the respondent being a paid employee of an

organization during the emergence of burnout. The second selection criterion was the burnout occurring in the last two years (meaning between 2013 and 2015). The third selection criterion concerned aspects in the workplace likely influencing this burnout (more than personal aspects). The latter selection criteria could only be checked a posteriori when the respondents mentioned their burnout. Therefore, this selection criterion is not a true selection criterion, but a check afterwards. Nevertheless, it is an important selection criterion, as this study focuses on the workplace of gifted individuals and burnout. No selection criteria regarding the aspects age, industry and so on were taken, as these aspects would not influence the results. The data for the qualitative study were collected through open interviews at the location of the respondents' preference. By use of open interviews, the respondents were able to tell their own story without being directed towards a specific context or subject, which fits the explorative character of this study. A topic list has been made in accordance with Dr. Noks Nauta to ensure certain contents to be discussed during the open interviews (see Appendix B). Each respondent had the same interview introduction (see Appendix C). In this introduction, the gifted individuals were informed concerning the purpose of the interview and the confidentiality of the data these individuals provided. After this introduction, the interview started. The duration of each interview was approximately one hour. After the interview, a summary report of each interview was sent to the respondents. Each respondent was able to comment upon the summary. Overall, the respondents were satisfied with the summaries. Table 2 shows a summary of the respondents of the open interview. As shown in Table 2, respondent 3 indicated during the interview he did not have an official diagnoses of burnout⁴. However, as the respondent's description of his symptoms showed many similarities with burnout (see the coding tree in Appendix E), he was not excluded from the analysis. Table 2 also shows some missing data regarding IQ. This data is missing, as some respondents did not do an IQ test. Instead, these respondents did an equivalent (mostly psychological) giftedness test that confirmed that these individuals were indeed gifted.

Measures. As it was unknown which aspects would come across during the open interviews, no scales were selected before the start of the data collection phase.

TABLE 2

⁴ The respondent indicated he did not get a burnout diagnosis, as the company already decided not to extend the labor contract of the respondent. If the respondent got the diagnose burnout, the company was not (as easily) able to let the respondent go due to Dutch legislation. Therefore, the respondent claims the missing diagnoses was not because of a burnout not being present, but because of contractual issues.

Summary respondents of open interviews

Respondent	Sex	Age (years)	Sector	IQ	Burnout diagnosis
1	F	52	Education	141	Riagg ⁵
2	M	45	Oil industry	-	Psychologist
3	M	42	Personal support	-	-
4	F	23	Education	140-150	Occupational physician
5	F	49	Policy making	-	Occupational physician
6	M	53	ICT	136	Occupational physician
7	F	53	Education	148	Winnock ⁶ & Family doctor
8	M	61	Personal support	139	Occupational physician
9	F	27	Education	133	Occupational physician
10	F	32	Special education	144	Occupational physician

Note: For the guarantee of anonymity, respondents have been coded 1 to 10; F is short for female, M for male; when an - is depicted at IQ, the concerning respondent didn't do an IQ test.

Burnout did not need any measures, as the diagnoses for burnout had already been made by a physician. Therefore, no further evidence for the existence of burnout was required.

During the interviews, each respondent was able to state how he or she knew he or she was gifted. Either the respondent did an IQ test which revealed giftedness (illustrated in Table 2) or a psychologist confirmed giftedness by use of tests and/or other diagnosis tools.

Analytical approach. For the qualitative study, insights were gathered and employed inspired by the Grounded Theory approach (e.g. Scott, 2009; Verschuren & Doorewaard, 2007). The Grounded Theory is a research method with an explorative character that aims at building theories by use of an inductive data collection method (e.g. Scott, 2009). By use of the inductive data collection method, new variables or constructs are sought and build together in order to build a (micro) theory or, in this case, a conceptual model. The explorative character of the Grounded Theory fits with the explorative aim of this study and turned out to be useful as there are few theoretical insights or concepts available (Anderson, 2013).

Within the Grounded Theory, one can use different comparison methods. One possibility to compare data is by use of a secondary theoretical comparison (Verschuren & Doorewaard, 2007). In a secondary theoretical comparison, one compares a phenomenon with existing theories originating from other researchers. This secondary theoretical comparison was employed in the study. In the theory section, the JD-R model was illustrated (e.g. Bakker & Demerouti, 2006). This model is employed for comparison with the data collected from gifted individuals. Therefore, the JD-R model served as a burnout model for comparison with burnout

⁵ The Riagg (in Dutch *Regionale Instelling voor Ambulante Geestelijke Gezondheidszorg*) was a Dutch institution for mental healthcare for those with psychosocial or psychiatric problems that did not need hospitalization, but were too severe or complex to be taken care by a family doctor or social worker.

⁶ Winnock is a Dutch institution that helps people who suffer from complicated (mental) health problems. Winnock helps these people to (re)function at their workplace and society by use of an intensive guidance program.

among gifted individuals in order to detect whether gifted individuals depict identical aspects that add for burnout or, on the contrary, depict deviant aspects that add for burnout.

During the data collection phase of the qualitative study, the data collected was coded and analyzed in an inductive manner. The inductive coding included three types of coding: open, axial and selective coding (Boeije, 2005; see Appendix D for more information). Each interview was directly analyzed and coded after transcribing (only open coding, see Appendix E). For each interview analyzed, the codes and aspects found in the previous interview(s) were compared. Therefore, the analysis and data collection continually informed each other, leading towards an iterative analysis of the qualitative data. When all interviews were held, the data was analyzed by use of axial and selective coding (see Appendix F and G). In the selective coding phase, a final coding tree was made in which the codes were compared with the constructs and aspects of the JD-R model. This comparison led to a conceptual model (see Figure 3), which was tested in the quantitative study.

The quantitative study

Sample and procedures. Based on the results of the qualitative study, a questionnaire was built (see Appendix I). The questionnaire was checked by Dr. Noks Nauta and Dr. Alain De Beuckelaer. Before the questionnaire was distributed, it was pre-tested by the respondents that were interviewed in the qualitative study. By use of a pretest, the proper reading level, clarity and appropriate response formats were tested and adjusted when needed. These adjustments ensured correct interpretation and thus enhanced the face validity of the questionnaire (Netemeyer, Bearden & Sharma, 2003).

When the questionnaire was finished, respondents (N=74) were recruited by a follow-up online advertisement. The Gifted Adults Foundation itself recruited respondents by placing the online advertisement in the Gifted Adults Foundation newsletter, relevant LinkedIn groups and giftedness forums. The gifted individuals surveyed were informed in advance concerning the purpose of the survey, the content coverage, and the confidentiality of the data these individuals provided. The data collection time span was three weeks. After week 1, a reminder was sent to the respondents to complete the questionnaire. Essentially the same selection criteria for the respondents were applied as in the qualitative study. Only one adjustment was made: the respondents did not need to have experienced their burnout within the last two years, but within the last six years in order to obtain a larger sample. As the questionnaire was administrated only one, no causal relations were tested for and therefore, no causal interpretations were made (see also *Results: testing the conceptual model* and *Discussion*).

Measures. For the questionnaire, measures have been built for giftedness, burnout and those aspects that were found in the qualitative study. For each aspect, an examination of existing scales took place and the most appropriate and most tested scales were selected in order to enhance content validity. In order to keep the total number of items of the questionnaire manageable, some scales were shortened (e.g. for reflective indicators, only those indicators with the highest factor loading; see Appendix K). Most items were phrased into a first person phrasing, unless when this phrasing type led to confusion for the respondents or this phrasing was not applicable for the item. The scales used for the questionnaire are elaborated on in the remaining of this section.

As gifted individuals tend to be dissimilar, it is found almost impossible to create a clear cut measure for giftedness (e.g. Rinn & Bishop, 2015). In order to be able to measure giftedness to some extent, the Gifted Adults Foundation uses a survey item that asks respondents why they perceive themselves gifted (see Appendix L). According to the Gifted Adults Foundation survey item, the perception that a respondent is gifted can be (A) because of the result of an IQ test (a test result above 130 or above the 98th percentile indicates giftedness), (B) because the respondent is a member of Mensa⁷, (C) because the respondent is a member of another society of gifted individuals (such as the Gifted Adults Foundation) and/or (D) because the respondent recognizes him- or herself in characteristics of a gifted individual. This survey item of the Gifted Adults Foundation was included in the questionnaire. For option (D), it was compared which characteristics mentioned by the respondent fitted the facets of a gifted individual explained in the Delphi-Model (Kooijman-Van Thiel, 2008) in order to confirm the respondent's giftedness. Also, a survey item regarding whether IQ was tested and if yes, what the IQ was measured at, was included in the questionnaire as it is argued that gifted individuals score at least 130 on IQ tests (e.g. Resing & Drenth, 2007). This survey item also served as a confirmation of the respondents' giftedness. Both the Gifted Adults Foundation survey item and the IQ survey item therefore served as a confirmation of the respondents' giftedness.

For burnout, one widely recognized scale is the Maslach Burnout Inventory (MBI; e.g. Koeske & Koeske, 1989; Byrne, 1991). The MBI is a scale consisting of twenty-two items which are divided between the three dimensions of Maslach's characterization (emotional exhaustion, depersonalization and reduced personal accomplishment; see Appendix J). In order

⁷ Mensa is an international organization for very intelligent individuals (mostly gifted individuals). An individual can become a member of Mensa by doing an acknowledged intelligence test. On these test, one could score at the top 2% of de population. As the calculation of the IQ test differs for each test, the organization uses percentile scores to determine admission.

to keep the number of items in the questionnaire manageable, it was chosen not to include the twenty-two items of the MBI scale in the questionnaire. Instead, for each dimension of Maslach's characterization, two items were built for measurement, resulting in a total of six items measuring burnout. It was chosen to create two items for each dimension as there will be respondents who have faced burnout in the past (and are thus cured when completing the questionnaire) and respondents who are facing burnout at the time of the questionnaire administration. By use of a 3-point scale respondents were (retrospectively) asked to what extent they suffer emotional exhaustion, depersonalization and reduced personal accomplishment, varying from 'not applicable' to 'applicable to a great extent'.

The analyses of the qualitative study displayed several aspects, which were tested in the quantitative study. These aspects are workload, perfectionism, coworker support, supervisor support, boredom, autonomy, acknowledgement, hierarchy, feedback, impulse for control, not knowing limits, and feeling different from one's supervisor and/or coworkers. Mostly, items for these aspects were selected from existing scales (see Appendix K for the detailed adaptation of each scale). It was ought to use as many existing scales as possible, as the validity of these scales was already tested in similar research. When no (appropriate) existing scales were found, scales were self-made in accordance with the results from the qualitative study.

The aspect workload was assessed by use of the Quantitative Workload Inventory (QWI; e.g. Spector & Jex, 1998), in which respondents are asked to indicate how often each statement mentioned occurs in their jobs, with a scale of five response choices, ranging from less than once per month or never (coded 1) to several times per day (coded 5). The mean coefficient alpha across fifteen studies was .82 (Spector & Jex, 1998). For the questionnaire, the QWI items were slightly adapted: instead of asking the respondent to state *how often* a statement occurred, the respondents were able to state how they *perceived* their workload. The adjustment to perceived workload was made, as it is expected that gifted individuals have a different perception of a high workload compared to non-gifted individuals. As this study focuses on gifted individuals, it is important to measure the perceived workload of gifted individuals. The response choices of the QWI were adjusted to a 7-point item scale⁸ in which the respondent perception of workload was asked ranging from 1, never to 7, always.

The aspect perfectionism was assessed by use of the Multidimensional Perfectionism Scale (MPS) of Frost, which is a reflective measurement model (e.g. Frost, Marten, Lahart &

⁸ A change to a 7-point scale has been made as Weijters, Cabooter and Schillewaert (2010) argue when a research aims at relating variables or estimate linear models, a 7-point scale is best to use compared to a 5-point scale.

Rosenblate, 1990). This scale consists of thirty-five items divided over six subscales with a mean coefficient alpha of .90. For this study, from each subscale, the two items were included (leading towards twelve items measuring perfectionism) and assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree). Some items of the MPS concerned the respondent's parents. The qualitative study showed not only parents influenced the respondents' perfectionism, but the social environment as a whole. Therefore, the noun parents was replaced with social environment in these items.

The aspect coworker support was assessed by use of four items originating from Ducharme and Martin (2000). In the originating reflective measurement model, ten items were included divided over two factors (mean coefficient alpha factor 1, affective support, is .85 and mean coefficient alpha factor 2, instrumental support, is .76; Ducharme & Martin, 2000). In this study, for affective support, the two items with the highest factor loading were included. Also for instrumental support, the two items with the highest factor loading were included. These items have been assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree).

The aspect supervisor support was assessed by an adaptation of the Survey of Perceived Organizational Support (SPOS⁹) to perceived supervisor support (PSS; Eisenberger, Huntington, Hutchison & Sowa, 1986). Overall, the SPOS has a Cronbach's alpha of .97, with item-total correlations ranging from .42 to .83. Eisenberger et al. (1986) selected eight high-loading items from the SPOS to assess PSS. Of these eight items, the two items with the highest loadings were used for the questionnaire. These items have been assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree).

The aspect boredom was assessed by use of the Boredom Proneness Scale (BPS), which is a reflective measurement model (e.g. Vodanovich, Wallace & Kass, 2005). The BPS originally consists of twenty-eight items divided into four factors. Vodanovich et al. (2005) made a two-factor short version of the BPS (factor 1 mean coefficient alpha .86 and factor 2 mean coefficient alpha .89; Vodanovich et al., 2005). For this study, the two items with the highest factors loadings of each factor originated from Vodanovich et al. (2005) were included, which resulted in a total of four items. When possible, the wording of the original items was adjusted to the workplace as the workplace is within the focus of this research. The items have been assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree).

⁹ For an overview of the SPOS, see Eisenberger et al., 1986.

Autonomy was assessed by use of a scale adopted from Thompson and Prottas (2006), which has a mean coefficient alpha of .71 (Thompson & Prottas, 2006). The items were adjusted to a *perceived* autonomy wording, as the qualitative study showed that the perceived autonomy played a role in burnout. The items were assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree).

The aspect acknowledgement was assessed by incorporating two items from the SPOS (see *supervisor support*). The two items adapted were ‘Even if I did the best job possible, the organization would fail to notice’ and ‘The organization takes pride in my accomplishments at work’. The items were assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree).

For the aspect hierarchy, feedback, impulse for control and feeling different from one’s supervisor or coworkers, no (appropriate) scales were found in the literature. Therefore, items for these constructs were self-made in alignment with the results from the qualitative analysis. For hierarchy, firstly, one item was added for the assessment of the ‘amount’ of hierarchy (translated: “to what extent is there a hierarchy in your organization?”). Response choices were on a 5-point scale ranging from 1 “it’s a flat organization” to 5 “it’s very hierarchical”¹⁰. When respondents answered the item with the value 3 or higher, three follow-up items were included concerning to what extent the hierarchy prevented the respondent from executing tasks, expressing ideas and executing ideas. These items were assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree). The aspect feedback was assessed by use of two items which measured the quantity and quality of feedback from one’s supervisor and/or coworkers. These items were assessed by use of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree). The aspects impulse for control, not knowing limits and feeling different were all assessed by one item which consisted of a 7-point Likert-type scale (1 strongly disagree, 7 strongly agree).

Analytical approach. The data resulting from the quantitative study was analyzed by use of logistic regression analyses in SPSS 21 in order to test for relations between job demands and job resources on burnout as the binary dependent variable¹¹. It was chosen to recode the individual indicators of the dependent variable burnout in binary form in order to obtain more equal divided cells, as the cell distribution of the individual indicators were skewed with some

¹⁰ For this item, a 7 point Likert-type scale was not used, as this item was not used for linear analysis. Instead, this item served as a selection item to determine which respondents received the follow-up item.

¹¹ What should be noted here, is in logistic regression analysis, one speaks of causal relations (e.g. Field, 2009). In this study, the logistic regression analysis did not include causal relations. Therefore, in this study, one speaks of ‘associations’ instead of causality.

little represented cells. With more equal divided cells, it is possible to run analyses on model testing. Burnout was measured in the questionnaire by use of six items (based on the three dimensions: emotional exhaustion, depersonalization and reduced personal accomplishment in both present and past tense). For each item, respondents were able to state the item (1) did not apply to them at all, (2) applied to them to a little extent or (3) applied to them to a great extent. In order to solve the little representation of some cells, each item has first been recoded into 0's and 1's ([1] "did not apply at all" and [2] "applies to a little extent" were recoded into 0 and [3] "applies to a great extent" was recoded into 1). Second, a sum score was made of these three items. This sum score represents how respondents scored on "applies to a great extent". A score of 0 means the respondents had no "applies to a great extent" for any item, 1 means the respondent had 1 item marked as "applies to a great extent", 2 meaning the respondents had 2 items marked as "applied to a great extent" and 3 meaning the respondents had 3 items marked as "applied to a great extent". As only 4 respondents had a score of 0, these respondents have been added with those who scored 1. The respondents with a score of 0 were included in the analysis as they, even though relatively not very severe, faced burnout. The average sum score with new divisions for the burnout variable is showed in Table 3.

TABLE 3
Average sum score burnout

	Frequency	Percent	Cumulative Percent
0 or 1 indicators "apply to a great extent"	18	24.3	24.3
2 indicators "apply to a great extent"	27	36.5	60.8
3 indicators "apply to a great extent"	29	39.2	100
Total	74	100	

For the analysis of the logistic regression, three thresholds have been made in a binary format (see Table 4):

- 'Threshold 1' is between the group of respondents who had 0 or 1 indicators that "applied to a great extent" and the respondents who had 2 indicators that "applied to a great extent" in the burnout variable.
- 'Threshold 2' is between the group of respondents who had 2 indicators that "applied to a great extent" and respondents who had 3 indicators that "applied to a great extent" in the burnout variable..

- ‘Threshold 3’ (called ‘downup’ in the SPSS 21 syntax) is between the group of respondents who had 0 or 1 indicators that “applied to a great extent” and the respondents who had 3 indicators that “applied to a great extent” in the burnout variable.

TABLE 4

Thresholds used for logistic regression analysis

Threshold 1: respondents who had 0 or 1 indicators that “applied to a great extent” vs. respondents who had 2 indicators that “applied to a great extent” in the burnout variable		
Label	Frequency	Percent
0	18	40.0
1	27	60.0
Total	45	100.0

Threshold2: respondents who had 2 indicators that “applied to a great extent” vs. respondents who had 3 indicators that “applied to a great extent” in the burnout variable		
Label	Frequency	Percent
0	27	48.2
1	29	51.8
Total	56	100.0

Threshold3: of respondents who had 0 or 1 indicators that “applied to a great extent” vs. respondents who had 3 indicators that “applied to a great extent” in the burnout variable		
Label	Frequency	Percent
1	18	38.3
2	29	61.7
Total	47	100.0

Regarding a missing data analysis, the ‘hierarchy’ variable showed some missings. However, these missings were due to routing and therefore predetermined. No missing value analysis (such as Little MCAR’s test) needed to be conducted in order to check whether missing data would influence the regression analysis.

The sample size of the quantitative study was rather small (i.e. N = 74 valid cases). This small sample size implies that increasing model complexity should be done cautiously. Therefore, multiple single logistic regressions were relied on, instead of a limited number of multiple regressions. Given the small sample size, it was chosen to rely on a 90% confidence interval level (i.e., $p < .10$) when testing the significance of the structural relations, instead of the nominal level setting of the confidence interval level of 95%. Decreasing the confidence interval in order to detect significance in small sample sizes has been done in research before (e.g. Devloo, Anseel, De Beuckelaer & Salanova, 2015). By increasing the alpha level from .05 to .10 (with a power level 0.80), it was sought to detect more significant effects with the small sample size. See Appendices O and P for an in-depth elaboration on power and sample size.

According to the conceptual model (see Figure 3), a moderation effect of job resources is to be expected between job demands as independent variables and burnout as the dependent variable. The moderation effect was tested by the PROCESS bootstrap method and corresponding software (Hayes, 2013). In the following sections, the results from both the qualitative as the quantitative study are elaborated on.

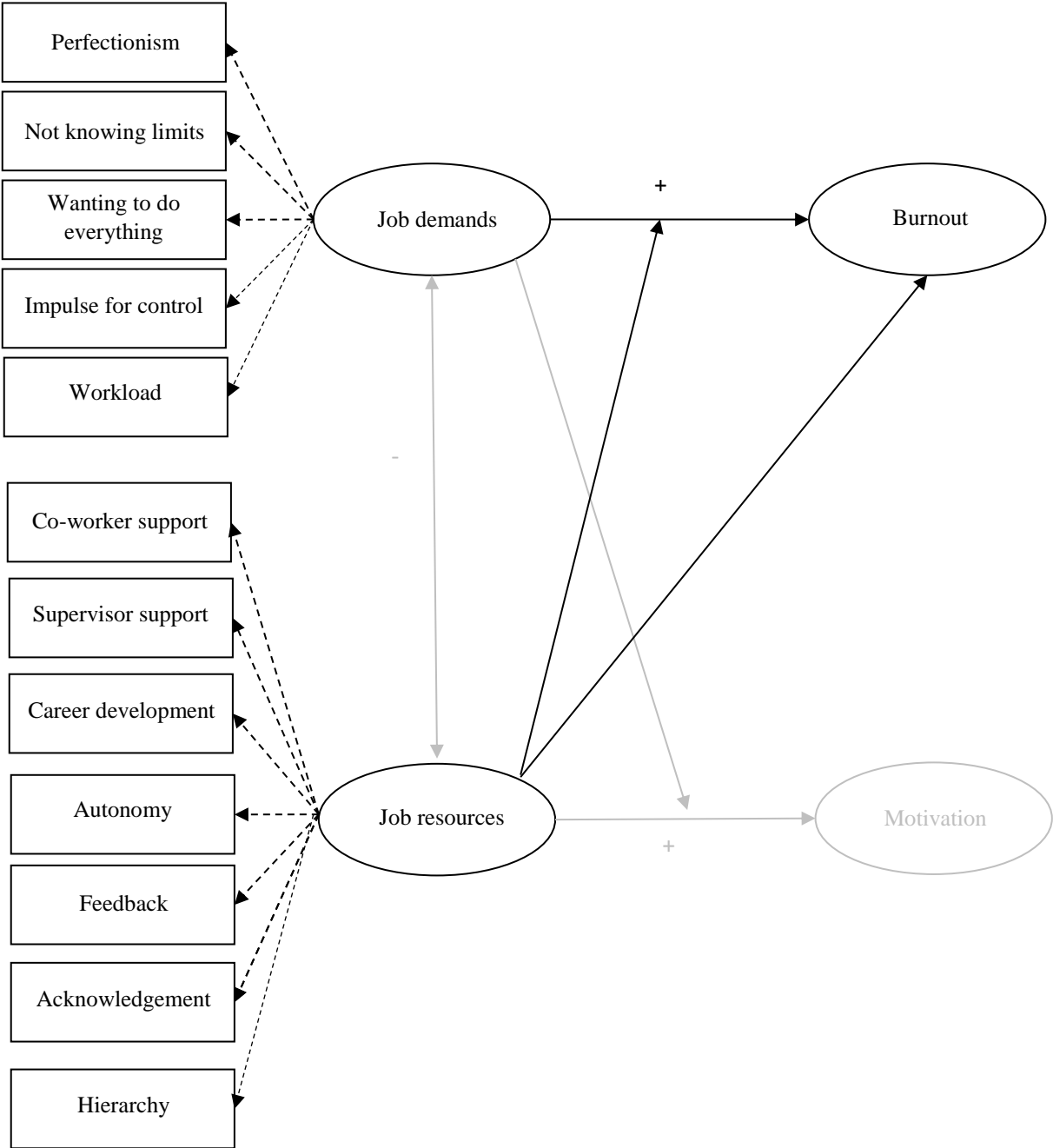
RESULTS QUALITATIVE STUDY: CONCEPTUAL MODEL-BUILDING

The results from the qualitative data analysis showed many aspects playing a role for gifted individuals when developing a burnout. These aspects are quite similar to the aspects of the JD-R model (e.g. Bakker & Demerouti, 2006; Schaufeli & Bakker, 2004), which was briefly explained earlier in this study. The JD-R model has therefore been used as the main framework for building the conceptual model. Adjustments to the JD-R model were made in order to make it fit for gifted individuals. In this section, the results from the qualitative study are shown. The main result from this study is the conceptual model that was built according to the analysis. In Figure 3, the conceptual model is shown.

As has been explained earlier in the burnout section, there are two types of processes in the JD-R model (see Figure 2): the upper half in the model represents the exhaustion process, the lower half represents the motivational process. The constructs depicted in these processes were job demands, job strain, job resources and motivation. In the conceptual model, the constructs job demands job resources and job strain are kept. The label job strain is adjusted to burnout, as burnout is a part of job strain and the focus of this study. For the construct 'job demands', perfectionism, not knowing limits, wanting to do everything, impulse for control and workload have been identified as aspects. For the construct 'job resources', coworker support, supervisor

support, career development, autonomy, feedback, acknowledgement and hierarchy have been

FIGURE 3
Conceptual model



Note: Circles represent constructs; rectangles serve as subparts of the constructs; one-headed arrows represent an association between the constructs. The plus and minus signs represent a positive or negative association. Dotted arrows represent the clarification of the rectangle constructs being subparts of the constructs in circles. Constructs and arrows in grey are not investigated in this study

identified as aspects.

The quotes depicted in this section are in English, whereas the original quotes are in Dutch. Each quote depicted in this section therefore has been given a number (Q1, Q2, etc.) which corresponds with the number of the original quotes included in Appendix H.

Job demands

For job demands, perfectionism, not knowing limits, wanting to do everything, impulse for control and workload were identified as key aspects. Strikingly, mainly respondents who have worked in the education sector (three out of ten respondents) stated a high workload. Next to high workload, gifted individuals tend to impose high demands on themselves; those gifted individuals who were interviewed claimed they had high expectations of themselves (mostly due to perfectionism), did not stop when they had to stop and wanted to do and/or control everything. For example, a respondent said the following:

Q1: “It always has to be better, has to be more. What I did, it’s good, it’s what I’m getting paid for. But what...when does it stop, when can you say to yourself wow, that was good. If you never say that to yourself...Than you keep pushing, keep pushing yourself to the edge. Until you fall. Then, you are burnout” (interview respondent 2).

Another example of a high imposed demand can be given from a respondent who was eager to do every activity he could do on the job:

Q2: “And I want to do everything at the same time and have difficulty to choose and I like everything and do everything in times that it goes well. Then, I have the opportunity to do so. At that point, I have endless energy until the energy is gone and then I’m stuck with all these tasks that I cannot or don’t want to do” (interview respondent 3).

Six out of ten respondents indicated they would do more activities during their work than their supervisor asked them to. These respondents would therefore easily overdo their activities. According to the Gifted Adults Foundation (IHBV, 2014), gifted individuals are very productive, but as a downside could do too many (unnecessary) things. Therefore, the gifted individuals are increasing their workload and impose high demands on themselves. What should be noted here, is that mainly perfectionism was visible during the interviews, as five out of ten respondents explicitly stated perfectionism playing an important role in their burnout:

Q3: “That’s this perfectionism, it has to be perfect. But life cannot always be perfect. And if you keep hanging on to that, you go too far at some point. Still, there’s this question when is good good enough. And for me, that’s only when it’s perfect. And if you keep pursuing that, you keep harming yourself” (interview respondent 2).

Q4: “Well, I have always been an A-student and at a certain point you are creating this image in your head of... I have to... I’m aiming high and I have to keep up with that because that’s what people are used from me and what I’m used to from myself. So when you’re doing something less, that’s very hard to me. Yeah, that’s that perfectionism, which creeps in so fast. I will never get that out of my system” (interview respondent 4).

Erickson (2011) states perfectionism can be established inside-out and outside-in. Perfectionism is established inside-out when the perfectionism is connected to the developmental potential and entelechy of the gifted individual and, as Erickson (2011) states, “the determination to be the best one can be” (“Perfectionism: From the inside out or the outside in?”, 2011). Q3 shows perfectionism is serving as an important factor in the increase of burnout as the respondent forced himself to perform better and discourages himself to state tasks to be finished. Then, at a certain point, the respondent developed a burnout. In Q3, the perfectionism is developed from an inside-out perspective. Quote Q4 shows perfectionism which has been developed by the respondent due to an external impulse (outside-in): she states her environment expects her to perform on a high level and therefore she expects herself to perform on a high level, not allowing herself to take a step back when necessary. As said before, perfectionism was stated explicitly by five out of ten respondents. No respondent indicated or showed little perfectionism.

Another giftedness characteristic that became visible during the interviews was impulse for control. One respondent declared her impulse for control as a huge obstacle for dealing with her work, which is illustrated by the following quote:

Q5: “Someone only had to...let’s say look at me in a wrong way and I was thinking fuck it’s going wrong and it can’t go wrong. So I was pushing myself a lot and wanting

to control it all. I think that's a great cause originating from my giftedness. Urge for control haha. And well, that's not working at all of course" (interview respondent 1).

Besides this example of impulse for control in the workplace itself, the impulse for control was also reflected upon three out of ten respondents during the burnout itself, as the burnout was difficult for respondents to deal with. As the following quotes show:

Q6: "I was also very scared. [...] My body was doing stuff and I couldn't control it. That fear for losing control was very significant at that time" (interview respondent 10).

Q7: "Because I was hardly able to, let's say, calculate $1+1=2$, putting it to the extreme. I couldn't do the groceries or I was busy all week making a shopping list. [...] That one thing you used to build on, was your mind. Well, my mind wasn't working anymore, that's shitty. That's really... That helplessness, fuck I can't even figure out what to eat. Or when something was out of stock, or it was this time in the Albert Heijn¹² when they moved everything. Ohh... Then, you're almost crying, goddamn, where is everything, I can't find it anymore. Such helplessness. What of course is somewhat at odds with...of...you just want to know...that control...you are really...you don't have it anymore. You are just completely powerless" (interview respondent 1).

For some respondents, the brain was described as one of the most valuable assets. Therefore, not being able to do the things the respondents used to do (for example doing groceries) and not being able to perform and process concepts in a high level seemed extra frightening. No respondent stated he or she did not mind to lose control or stated having control did not matter.

The respondent's (work)environment was often unaware of the decline of the respondent's capabilities due to the emerging burnout, as the respondents were still able to perform at a high level. This is illustrated by the following quote:

Q8: "And I was still able to concentrate and stuff, so I think, and those are possibly the advantages of being gifted. Even when you are less in your ability to concentrate, you are always at a high level. Therefore, it isn't noticeable. [...] I still functioned and

¹² Albert Heijn is a Dutch supermarket.

performed. That's the issue for the manager. You don't see anything about me, because I'm still performing, so that's the problem" (interview respondent 5).

As Q8 illustrates, the respondent's manager was unaware of the declining health of the respondent as, absolutely speaking, the respondent was still performing at a high level. However, relatively speaking, the performance of the respondent was declining. What should be noted here, is that not all respondents stated their supervisor did not notice their decline in performance.

Another aspect visible for some respondents was not knowing their own limits, which was explicitly stated by two out of ten respondents. Not knowing limits is also recognized as a pitfall at work according to the Gifted Adults Foundation (IHBV, 2014). By not knowing their own limits, the respondents worked too hard for too long, which eventually led the respondents to be overworked and exhausted, which led towards a burnout. As one respondent stated:

Q9: "I can still remember in that burnout: limits, limits? What does a limit feels like? What is a limit?" (interview respondent 10).

By not knowing her own limits, the respondent did not know when to stop and to reflect upon what was happening with her health, which was also visible at other respondents. Five out of ten respondents ignored their health, did not see signs of being overworked and kept working at the quick pace they had been working in before. Gradually these respondents could not keep up with the pace they were working in and got a burnout. One last remarkable observation is that no respondent indicated he or she directly noticed or listened to signs of the emerging burnout.

Job resources

According to Bakker and Demerouti (2006), job resources are referred to as the physical, psychological, social or organizational aspects of the job that help in achieving work goals, help to reduce job demands and/or help to stimulate personal growth, learning and development. During the analyses of the interviews, the aspects coworker support, supervisor support, career development, autonomy, feedback, acknowledgement and hierarchy were identified as key aspects of considerable importance for defining job resources for the gifted individuals.

For coworker support, one should first notice five out of ten respondents indicated they noticed they were different compared to their coworkers. The respondents noticed they had a different mindset compared to their coworkers. For example, one respondent stated the following:

Q10: “People do stuff in a certain way and they are doing it in this way for years so why should they change that, it’s all going well and... I sometimes have the idea I’m at a total different wavelength compared to the others” (interview respondent 4).

According to the Gifted Adults Foundation, gifted individuals are fast thinkers and are quick in learning new things (IHBV, 2014). Therefore, gifted individuals are more eager to see problems in an organization and find opportunities for the organization to improve its organizational operations. However, coworkers do not often share the perception for improvement. This is also illustrated by the following quote:

Q11: “I have got some ideas about how to arrange work better. Also for colleagues. [...] But well, it’s not listened to at all [...]. Because people often do not want to change” (interview respondent 8).

This gap in perception leads for the gifted individual to lose contact with others (also depicted by the Gifted Adults Foundation [IHBV, 2014]) and decrease of (perceived) coworker support. Several authors have stated that the social support of coworkers is of importance, as it buffers the influence of stressors on burnout (e.g. Haines, Hurlbert & Zimmer, 1991; Johnson & Hall, 1988). The gifted individuals from quote Q10 and Q11 felt no support from their coworkers, as the gifted individuals and their coworkers differ in perception of improvement for the organization, which leads the social support buffer to be virtually nonexistent.

The perception gap for improvement (mostly due to difference in intelligence) was not only noticeable between the respondents and their coworkers, but was also visible between the respondent and his or her supervisor. The following quote serves as an example of a respondent’s (bad) relationship with his supervisor due to an intelligence difference. In this quote, the respondent refers to the relation with his supervisor:

Q12: “And well, at a certain point there are people where there is no connection with. It’s not that those people are bastards or something like that. But I just miss the...the

feeling of having enough with half a word and being on the same wavelength, understanding each other well. [...] Yeah, this will never get alright” (interview respondent 6).

This quote illustrates the respondent’s difficulty to interact with his supervisor, as the respondent and his supervisor differ in perception what is most important within the respondent’s job tasks. Since the respondent and his supervisor are not able to agree on the content of a task, the respondent and his supervisor clash. This clash leads to respondent to feel unsupported by his supervisor. According to the respondent, the bad relationship between him and his supervisor plays a great role in his burnout. However, not all respondents perceived little supervisor and/or coworker support. Respondent 5 and 10 indicated they received great support from their supervisors. These respondents stated the support from their supervisors helped them to deal with their burnout and thus buffered their burnout.

According to the JD-R model, another aspect in job resources is career development, which has also been identified in the interviews. In general, some respondents indicated they encountered little development in their function or within the organization, which often led to frustration and therefore a strengthening of the process to a burnout. As an example, two quotes of respondents are shown:

Q13: “It the same thing all the time, I’m not learning anymore, I’m not developing” (interview respondent 4).

Q14: “I have been a reintegration coach and well, when you have your own company you can expand it. [...] And yeah, you can continue all the time. Without quitting with being creative because you are determining it by yourself. And here, it stops with the job I have” (interview respondent 8).

Q13 and Q14 indicate the struggles these gifted individuals faced: they wanted to develop themselves further or include other tasks within their job responsibilities, but were restrained by their current function. These struggles of the gifted individuals can be linked to boreout. Boreout can be defined as a negative psychological state of low work-related arousal (Stock, 2014). The symptoms of boreout can be quite similar to burnout (Reijseger, Schaufeli, Peeters, Taris, Van Beek & Ouweneel, 2013). However, the cause of boreout is mainly through the

inability of the gifted individual to use all capacities and capabilities he or she has. For burnout, more aspects are included, as is shown in this study. Gifted individuals need challenges and (complex) problems to be solved, in order to keep motivated and triggered to perform on a high level. As Zuckerman, Eysenck and Eysenck (1978) state, boredom results from a strong need for stimulation. Comparatively, gifted individuals encounter a less stimulating environment due to their giftedness. Therefore, the odds are greater the gifted individuals would suffer from boredom (Reijseger, Peeters & Taris, 2013). An example of boredom is showed in the following quote:

Q15: “If I work somewhere for a longer period of time and the challenge decreases... then, that burnout comes along eventually. I also have a quite fickle resume. [...] Because I have had a different job or function every five years. For me, that’s the limit when the challenge is gone and the job becomes a routine. Then, it’s not exiting anymore and I want to do something different” (interview respondent 8).

For the respondent, the boreout led to a burnout as he postponed his work activities due to lack of challenging work. By postponing his work, the work of the respondent piled up and became too much to handle. The respondent lost the energy to cope with his (postponed) work and developed a burnout. What should be noted here is that not all respondents indicated boredom and/or perceived little career development. Some respondents indicated to have many challenges in their work and did not feel bored.

Another aspect in job resources is autonomy. This aspect was highly visible, as six out of ten respondents explicitly stated they did not have the autonomy they wish they would have. The wish for autonomy is shown in the following quote:

Q16: “Just the need for autonomy. I like it to...give me a tough problem and I’m going to figure it out and work with it, I love that. Trying to come up with a solution...something I can sink my teeth into” (interview respondent 6).

According to the Gifted Adults Foundation gifted individuals have the quality to act independent in their work (IHBV, 2014). The respondent depicted in Q16 wants to act independent but does not get the ability to do so, what makes him very headstrong and led towards conflicts with his supervisor, as the respondents feels like his supervisor is restraining him. What should be noted here is not all respondents felt restrained in autonomy. Two out of

ten respondents even indicated they have had too much freedom in their job at some point of time, which led them to wander.

Another aspect in job resources is feedback. Feedback has been discussed differently by the respondents. However, a pattern seems to occur between the respondents. Those respondents who received (often by their supervisor's) little feedback indicate receiving little feedback contributed to their burnout. Those who often consult with their supervisor (and thus get more feedback) indicate this helped them to cope with their job and work relations and thus served as a buffer for burnout. Feedback will be elaborated on by use of two respondents. The first respondent has a well-developed consulting structure with her supervisor (with much feedback), which led to the following situation:

Q17: "Well, the relationship with my manager where I said... Okay, we can arrange when I doubt whether it's good enough, I can talk with you about it. And there is openness to talk about it, she knows my pitfall. So...that's uhm...I stay responsible for my own functioning. But then, it's good to have an external look and I know this helps me. [...] So that, a bond of trust with my direct supervisor, I think is an important one. Having that space and assignments, as for helping each other with stuff and making them discussable" (interview respondent 5).

The example shows that the consultation structure between the respondent and her supervisor helped for the respondent to determine where the bar needs to be set. The consultation structure led to a more relaxed relationship, which helped the respondent knowing when her performance is good enough. With this knowledge, the chance of overworking of the respondent was decreased, which buffered her burnout.

The second respondent did not receive any feedback in the beginning of her job. Later on, the respondent did receive feedback from her supervisor, which was mostly negative. Probably because the respondent was not told before what she was doing wrong and therefore continued working the way she did. The negative feedback influenced the respondent's own perception of functioning, which is more elaborated on in the next quote:

Q18: "But I was constantly put down whole day long. [...] Then, you really get the idea...they say you should give people compliments and things go better. I always thought, I don't need that. Well, I really do. You really start to believe you can't do anything" (interview respondent 1).

Q18 shows an aspect incorporated in feedback, which is acknowledgement. During the interviews, it became apparent that acknowledgement of one's supervisor and/or coworkers was often missing for the respondents. The respondents often felt they tried to improve the organization and did their best to perform as best as they could, but received little or no acknowledgment for their efforts. The need for acknowledgement is reflected in the following quote from a respondent. The respondent tells about her goodbye at the organization:

Q19: "And then I went forward and I got flowers from my boss and he said: "Well, you started with a lot of enthusiasm, then you got sick, then you worked very hard to come back and then you got sick again. Now, you are going to find a new challenge". And then I thought still no acknowledgement for the hard work I did. Because I have had put a lot...energy into...well...into the students actually. I've worked very hard for my students. But there was no acknowledgement at all" (interview respondent 9).

The last aspect within job resources is hierarchy. For five out of ten respondents, it was difficult to cope with hierarchy in their organization. The respondents did not agree with the hierarchical structure and found themselves blocked in their performance due to the hierarchy. A respondent illustrates an example:

Q20: "Really of these death eaters, "that's not the way we handle things here". "That's not how things are done in education". Yes, well, uhm, there is more that isn't how things are done in education. Yeah...that...to me, these are not answers. [...] "Stay out of it, Cock¹³". Yeah, like you are not in the right position to interfere. That was also my frustration. [...] It was becoming more hierarchic, more formal. [...] Literally shutting the door" (interview respondent 7).

In the interview, the respondent showed her frustrations against the hierarchy in the organization. The respondent felt her ideas were not listened to, as she is, according to management, not in the right position to comment on the way the school educates the children. The frustration of the respondent worsened the relationship between herself and management and made the respondent feel stuck in the organization. No respondent indicated he or she approved the hierarchy in the organization.

¹³ The Cock was a detective in a Dutch crime series broadcasted on Dutch television. He was well known for his troubles with authority and stubborn behavior.

The exhaustion process

According to the JD-R model, the relationship between job demands and job strain is called the exhaustion process: an increase in job demands leads to an increase in job strain (e.g. Bakker & Demerouti, 2006). For the conceptual model (see Figure 3), the same process can be applied: when the respondents face more job demands, the respondents feel they have to perform better and better. The increasing performance pressure leads the respondents towards loss of energy and, in the end, exhaustion and a burnout.

Direct effect of job resources on burnout

During the interviews, it became apparent that the absence and/or little presence of job resources directly influenced burnout and therefore served as a direct stressor for burnout instead of serving as a buffer in the exhaustion process, which was also illustrated by Hakanen et al., (2008). Therefore, an arrow is depicted between job resources and burnout, which illustrates a negative relationship between job resources and burnout. The negative relationship between job resources and burnout could also be stated as an exhaustion process, as, in most cases, less job resources adds for burnout.

Moderating effects

Bakker and Demerouti (2006) state there are two types of moderating effects in the JD-R model: the moderating effect of job resources on the exhaustion process and the moderating effect of job demands on the motivational process. For the moderation in the exhaustion process, Bakker and Demerouti (2006) state job resources act as a buffer in the exhaustion process, which means that having great job resources can buffer for the influence of job demands on job strain. In this study, the job resources are often little present: most job resources presented in this section did not act as a buffer in the exhaustion process of job demands on burnout, but were a stressor on burnout themselves. One detected buffer is the support of the supervisor, as two out of ten respondents stated the support of their supervisor helped them to cope with the burnout or helped decreasing burnout.

RESULTS QUANTITATIVE STUDY: TESTING THE CONCEPTUAL MODEL

A conceptual model has been build according to the analysis of qualitative study (see Figure 3). The direct effect of job resources and job demands on burnout were tested by use of

logistic regression analysis in SPSS 21. For all the regression equations reported in the logistic regression analysis, the underlying model assumptions were checked (e.g. absence of multicollinearity and linearity; Field, 2009; see Appendix M). The moderation effect of job resources on job demands and burnout was tested by the PROCESS bootstrap method and corresponding software (Hayes, 2013). The underlying model assumptions of moderation were checked (e.g. absence of multicollinearity and significant effects of the moderator; see Appendix N). First, the logistic regression analyses are elaborated on, followed by the moderation analyses.

In total, 74 respondents met the selection criteria set for participation in this study and completed the questionnaire. The descriptive statistics of these respondents is depicted in Table 5.

TABLE 5
Descriptive statistics respondents from quantitative study

	Minimum	Average	Maximum
Age	26	42	64
IQ	122	138	160
Sex	Male	Female	
	22	52	

In the introduction, it was stated those with an IQ higher than 130 are considered gifted (Nauta & Ronner, 2007). However, during the data collection of both the qualitative and quantitative study, some respondents stated they did not do an IQ test or had a relatively low score on their IQ test due to performance anxiety. In detail, 23 respondents did not mention their IQ. Of these 23 respondents, 3 did do an IQ test and had a result above 130. However, these respondents did not want to reveal their IQ in detail within the questionnaire. The other respondents elaborated on their knowledge of their giftedness by illustrating which characteristics of a gifted individual they recognized themselves in. The characteristics shown were compared with the facets of a gifted individual illustrated by the Delphi-Model of Giftedness (Kooijman-Van Thiel, 2008). Overall, it was clear these respondents fitted with the facets depicted in the Delphi-Model and thus were included in the analysis. The dialogue whether IQ is sufficient to determine giftedness is further elaborated on in the Discussion section.

As explained in the Methods section, the likelihood of finding significant effects was very small due to the sample size (see also Appendix O). Therefore, effects of $p < .10$ are

considered significant and effects with a p between .10 and .20 are considered ‘noteworthy’. The effects are displayed in Table 6 – 9. Coworker support, supervisor support, not knowing limits and perfectionism showed significant or noteworthy results. The other variables depicted in the conceptual model did not show (noteworthy) significant effects and are thus not further elaborated on in this section.

As displayed in Table 6, coworker support contributes for a small amount to the model (the Cox & Snell R² statistic is between .035 and .132, the Nagelkerke R² statistic is between .047 and .180). The test with the constant and the model with coworker support was statistically significant (χ^2 [df = 1] = 6.67, p < .05) for the third threshold (respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) and for the first and second threshold (respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 2 burnout indicators “applied to a great extent” and respondents with 2 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) noteworthy (χ^2 [1] = 1.75, p = .185 and χ^2 [1] = 2.00, p = .157), indicating that the predictor coworker support is negatively associated with burnout. The odds ratios are respectively 0.74, 0.77 and 0.56, meaning there is a moderate to strong negative effect of coworker support as independent variable and burnout as the dependent variable, which confirms the effect depicted in the conceptual model (see Figure 3).

TABLE 6

Results from three logistic regression analyses (one for each threshold) for coworker support and burnout

Included respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 2 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	1.62 (1.00)		
Coworker support	-0.30 (0.23)	0.74	.195* ¹
Included respondents with 2 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	1.00(0.73)		
Coworker support	-0.27(0.19)	0.77	.164* ²
Included respondents with 0/1 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)

vs. respondents with 3 burnout indicators “applied to a great extent”			
Constant	2.66(0.99)		
Coworker support	-0.57(0.24)	0.56	.017* ³

*¹ Note: R²= .038 (Cox & Snell), .052 (Nagelkerke). Model χ^2 (1) = 1.75, p = .185.

*² Note: R²= .035 (Cox & Snell), .047 (Nagelkerke). Model χ^2 (1) = 2.00, p = .157.

*³ Note: R²= .132 (Cox & Snell), .180 (Nagelkerke). Model χ^2 (1) = 6.67, p < .05.

Results regarding supervisor support are presented in Table 7. Supervisor support contributes for a small amount to the model (the Cox & Snell R² statistic is .044 and .051, the Nagelkerke R² statistic is .059 and .070¹⁴). The test with the constant and the model with supervisor support are noteworthy to mention for the second threshold (respondents with 2 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) (χ^2 [1] = 2.53, p = .112) and for the third threshold (respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) (χ^2 [1] = 2.48, p = .115).

TABLE 7

Results from two logistic regression analyses (one for each threshold) for supervisor support and burnout

Included respondents with burnout 2 indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	0.87(0.58)		
Supervisor support	-0.27(0.18)	0.78	.121* ¹
Included respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	1.37(0.67)		
Supervisor support	-0.30(0.20)	0.74	.124* ²

*¹ Note: R²= .044 (Cox & Snell), .059 (Nagelkerke). Model χ^2 (1) = 2.53, p = .112.

*² Note: R²= .051 (Cox & Snell), .070 (Nagelkerke). Model χ^2 (1) = 2.48, p = .115.

¹⁴ According to Field (2009), the Cox and Snell’s R² and Nagelkerke’s R² are conceptually the same. In terms of interpretation they are similar to the R² in linear regression analysis and are a good indicator for the substantive significance in a model. Therefore, Field (2009) argues to report both R² in logistic regression analyses.

The p values found are close to a significant effect (determined to be .10 in this section, see Appendix O), indicating that the predictor supervisor support is negatively associated with burnout. The odds ratios are 0.76 and 0.74, meaning there is a moderate negative effect of supervisor support as the independent variable and burnout as the dependent variable, which confirms the effect depicted in the conceptual model (see Figure 3).

Results regarding not knowing limits are presented in Table 8. Not knowing limits contributes for a small amount to the model (the Cox & Snell R² statistic is .085 and .110, the Nagelkerke R² statistic is .114 and .150). The test with the constant and the model with not knowing limits for are statistically significant for the first threshold (respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 2 burnout indicators “applied to a great extent”) ($\chi^2 [1] = 3.98, p < .05$) and for the third threshold (respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) ($\chi^2 [1] = 5.48, p < .05$), indicating that the predictor not knowing limits is positively associated with burnout. The odds ratios of both thresholds are respectively 1.42 and 1.47, meaning there is a moderate positive effect of not knowing limits as the independent variable and burnout as the dependent variable, which confirms the effect depicted in the conceptual model (see Figure 3).

TABLE 8

Results from two logistic regression analyses (one for each threshold) for not knowing limits and burnout

Included respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 2 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	-1.03(0.80)		
Not knowing limits	0.35(0.18)	1.42	.054* ¹
Included respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	-1.17(0.78)		
Not knowing limits	0.39(0.17)	1.47	.025* ²

*¹ Note: R²= .085 (Cox & Snell), .114 (Nagelkerke). Model $\chi^2 (1) = 3.98, p < .05$.

*² Note: R²= .110 (Cox & Snell), .150 (Nagelkerke). Model $\chi^2 (1) = 5.48, p < .05$.

Results regarding perfectionism are presented in Table 9. Perfectionism contributes for a small amount to the model (the Cox & Snell R² statistic is .055 and .102, the Nagelkerke R² statistic is .074 and .138).

TABLE 9

Results from two logistic regression analysis (one for each threshold) for perfectionism and burnout

Included respondents with 2 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	-2.67(1.63)		
Perfectionism	0.58(0.34)	1.78	.087* ¹
Included respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”	B(SE)	Odds ratio	Sig. (p)
Constant	-3.51(1.95)		
Perfectionism	0.85(0.41)	2.35	.039* ²

*¹ Note: R²= .055 (Cox & Snell), .074 (Nagelkerke). Model χ^2 (1) = 3.20, p = .074.

*² Note: R²= .102 (Cox & Snell), .138 (Nagelkerke). Model χ^2 (1) = 5.05, p < .05.

The test with the constant and the model with perfectionism are statistically significant for the second threshold (respondents with 2 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) (χ^2 [1] = 3.20, p < .10) and for the third threshold (respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”) (χ^2 [1] = 5.05, p < .05), indicating that the predictor perfectionism is positively associated with burnout. The odds ratios of both thresholds are 1.78 and 2.35, meaning there is a moderate to strong positive effect of perfectionism as the independent variable and burnout as the dependent variable, which confirms the effect depicted in the conceptual model (see Figure 3).

Moderation effects

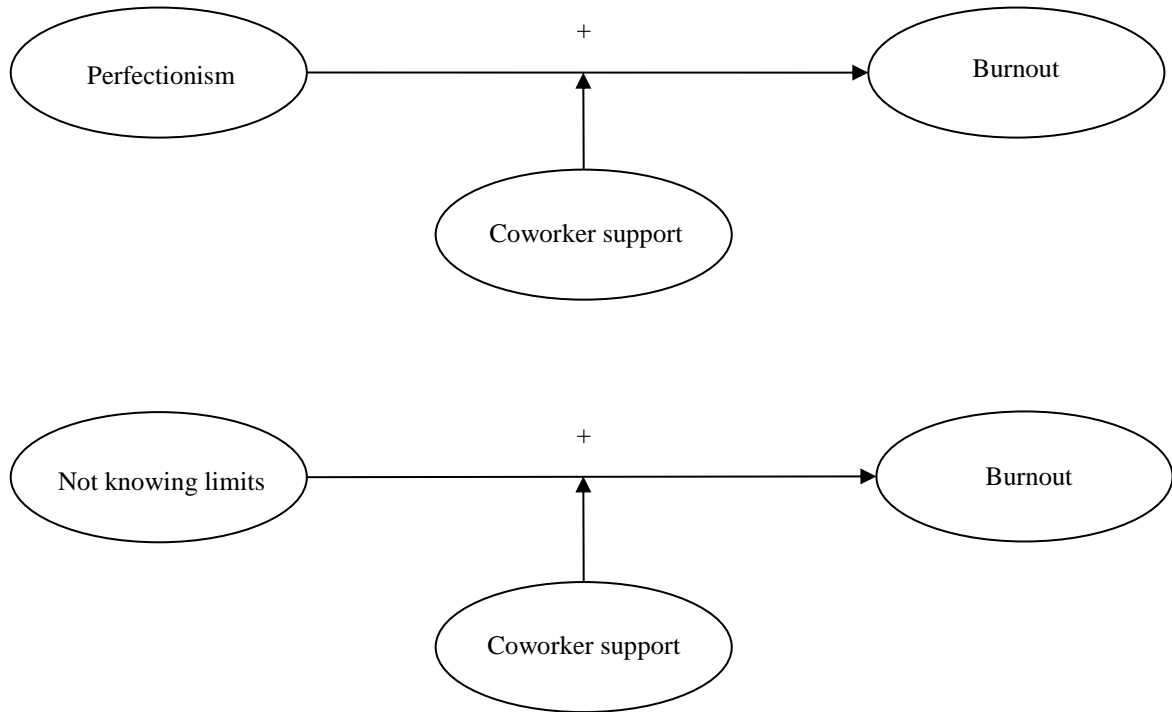
According to the JD-R model, there is a moderation effect of job resources in the relationship between job demands and burnout. In the logistic regression analyses, the job resource ‘coworker support’ showed a significant association with burnout for some thresholds. The

logistic regression analysis also showed ‘perfectionism’ and ‘not knowing limits’ (both in this study depicted as job demands) having a significant association with burnout in one similar threshold with coworker support, which was the third threshold (see Table 6, 8 and 9). Therefore, two moderation effects could be tested concerning the moderation effect of coworker support, as for a moderation effect to occur, both the moderating variable as the independent variable should have a significant association with the dependent variable. Even though the qualitative study did not show signs of a moderating effect of coworker support, this moderation is checked as it should be visible according to the JD-R model (see Figure 2).

In the qualitative study, a moderation effect of supervisor support on burnout was found, as the support of one’s supervisor could buffer for the effects of job demands on burnout. However, in the quantitative study, the logistic regression analysis showed no significant results between supervisor support and burnout. When there is no direct effect of the independent variable with the dependent variable, a moderation effect could not exist. Therefore, the moderation effect of supervisor support is not tested for. In Figure 4, the moderation effects of coworker support are depicted. The moderation effects are analyzed by use of the PROCESS bootstrap method (Hayes, 2013), which is a hierarchical regression analysis.

First, the moderation effect of coworker support on perfectionism as the independent variable and burnout as dependent variable was tested for the third threshold (meaning the comparison of respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”).

FIGURE 4
Moderation models tested



Note: Circles represent constructs, one-headed arrows represent an association between the constructs; the plus sign represents a positive association.

In the first step, the variables coworker support and perfectionism are included. These variables accounted for a significant amount to burnout, $R^2 = .174$, $F(2,44) = 5.85$, $p < .010$ ¹⁵ (see Appendix N). In the second step, the interaction term between coworker support and perfectionism is added to the regression model, which accounts for a non-significant proportion of the variance in burnout, R^2 change = .001, $F(1,43) = 0.07$, $p = .849$, $b = -.0003$, $p = .993$ (see Appendix N). The non-significant interaction effect shows no moderation effect exists of coworker support on perfectionism as the independent variable and burnout as the dependent variable.

Second, the moderation effect of coworker support on not knowing limits as the independent variable and burnout as dependent variable was tested for the third threshold (meaning the comparison of respondents with 0/1 burnout indicators “applied to a great extent” vs. respondents with 3 burnout indicators “applied to a great extent”). In the first step, the variables coworker support and not knowing limits are included. These variables accounted for a significant amount to burnout, $R^2 = .251$, $F(2,44) = 7.38$, $p < .005$ (see Appendix N). In the

¹⁵ In the logistic regression analysis, it was argued that effects of $p < .10$ are considered significant. For checking the model 1 logistic regression effects, the same significance boundaries were used.

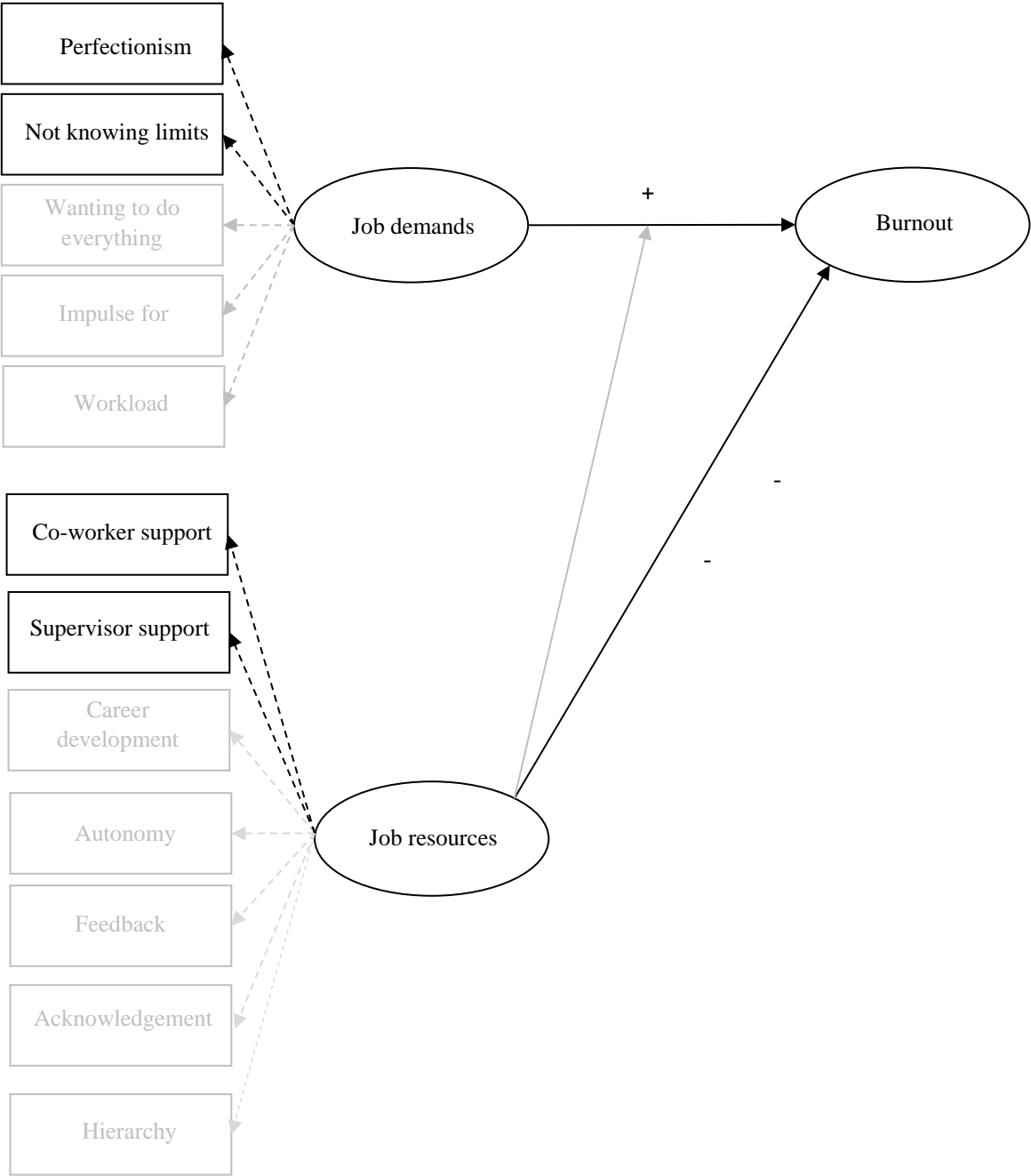
second step, the interaction term between coworker support and not knowing limits is added to the regression model, which accounted for a non-significant proportion of the variance in burnout, R^2 change = .013, $F(1,43) = 0.766$, $p = .386$, $b = .133$, $p = .403$ (see Appendix N). The non-significant interaction effect shows no moderation effect exists of coworker support on not knowing limits as the independent variable and burnout as the dependent variable. In the next section, the results are discussed and conclusions, limitations and implications for future research are shown.

DISCUSSION

The findings of this study enable the ability to reflect upon burnout in gifted individuals. Prior studies investigated burnout (e.g. Cordes & Dougherty, 1993; Halbesleben and Buckley, 2004) or giftedness behavior (e.g. Kooijman-van Thiel, 2008; Nauta & Corten, 2002; Persson, 2009; Nauta & Ronner, 2007). This study bridges these investigations to burnout among gifted individuals. The research goal of this study is exploring which aspects add to and which aspects buffer burnout among gifted individuals. The qualitative study identified key aspects that may add for a gifted individual's burnout. Perfectionism, not knowing own limits, coworker support, supervisor support, workload, wanting to do everything, impulse for control, career development, autonomy, feedback, acknowledgement and hierarchy were identified as key aspects adding for burnout among gifted individuals. Supervisor support was also visible as a buffer for burnout (with great supervisor support, burnout was buffered). Based on these aspects and the JD-R model, a conceptual model was built. The odds ratios and Chi-squares reported in the quantitative study support the findings from the qualitative study. Mainly supervisor support ($\chi^2 [1] = 2.53$, $p = .112$ for the second threshold and $\chi^2 [1] = 2.48$, $p = .115$ for the third threshold), coworker support ($\chi^2 [1] = 1.75$, $p = .185$ for the first threshold, $\chi^2 [1] = 2.00$, $p = .157$ for the second threshold and $\chi^2 [1] = 6.67$, $p < .05$ for the third threshold), not knowing limits ($\chi^2 [1] = 3.98$, $p < .05$ for the first threshold and $\chi^2 (1) = 5.48$, $p < .05$ for the third threshold) and perfectionism ($\chi^2 [1] = 3.20$, $p < .10$ for the second threshold and $\chi^2 (1) = 5.05$, $p < .05$ for the third threshold) showed significant or noteworthy effects on burnout. These results confirm the direct relationship of both job demands and job resources on burnout, which was also shown by Hakanen et al. (2008). Moderation effects of job resources on job demands as

the independent variable and burnout as the dependent variable were not found. In Figure 5, the results from the qualitative and quantitative study are depicted.

FIGURE 5
Results qualitative and quantitative study



Note: Circles represent constructs; rectangles serve as subparts of the constructs; one-headed arrows represent an association between the constructs. The plus and minus signs represent a positive or negative association. Dotted arrows represent the clarification of the rectangle constructs being subparts of the constructs in circles. Constructs in grey are those aspects only found in the qualitative study. Aspects in black are aspects that were found in both the quantitative as qualitative study.

All aspects in grey are aspects that were found in the qualitative study, all aspects in black are aspects that were confirmed by the quantitative study.

For coworker and supervisor support, the qualitative study indicated this support was associated with the respondents feeling different from their supervisor and/or coworkers. However, the quantitative study showed no significant results on feeling different from one's supervisor and/or coworker, but did show (indicative) significant results for supervisor and coworker support in the logistic regression analyses. These results suggest there are indeed issues with supervisor and coworker support, but the structure and causes of these issues with one's supervisor and/or coworker(s) could be more complex than presented in the qualitative study.

An important contribution of this study is that it gives an in-depth elaboration of the aspects that contribute to burnout among gifted individuals. In the literature, little was known regarding burnout among gifted individuals as a specific group and it was unknown whether being gifted could add for burnout. Even though this study did not include a comparative research with non-gifted individuals to test for differences between these individuals, this study does show giftedness characteristics that have added for burnout. Examples of characteristics found are wanting to do everything, not knowing own limits and losing contact with others, which confirms previous research who determined these characteristics as pitfalls (IHBV, 2014). This advancement in theory is an opportunity to identify aspects that add for burnout among gifted individuals and gives possibilities for building self-knowledge leading to prevention.

This study also helps managers identifying employees who can be gifted and who are moving towards a burnout. By being able to identify these factors at an early stage, the density or degree of burnout among gifted individuals could be decreased, resulting into less sickness leave and organizational costs. In the qualitative study, respondent 5 and 10 indicated the high support and collaboration with their supervisors helped them to cope with their burnout and decrease the degree of burnout. The quantitative study confirmed the association between supervisor support and burnout. Clear agreements between a supervisor and the gifted employee could help the gifted employee in determining when a task is done. When a clear determination of a task well-done is given by one's supervisor, the gifted employee knows when a task is good enough, leading to less self-imposed job demands and less overdoing activities. Also acknowledgement of one's supervisor was determined to be of importance for gifted individuals, which could also be more consciously implemented by supervisors.

Limitations

There are potential limitations of this study. Firstly, it can be discussed whether IQ should be the decisive measure for giftedness. As the IQ test is a measure at one point in time, it can be discussed whether an individual can be stated to be gifted based on this one measure. Some respondents indicated they did not do an IQ test or scored below 130 because of performance anxiety. Therefore, these respondents could be mistakenly seen as non-gifted. Many researchers have argued being gifted is not solely determined by intelligence (which is measured by use of an IQ test), but also by a unique combination of certain characteristics, which was also depicted by the Delphi-Model (Kooijman-Van Thiel, 2008). One could say a gifted individual is highly intelligent, but not every highly intelligent individual is gifted. Therefore, in this research, both IQ and giftedness characteristics mentioned by the respondents were measured in order to complement each other.

Second, associations of certain aspects with burnout were analyzed in this study, whereas analyzing causal effects could have been better to achieve the research goal. In general, causal effects can best be tested by use of longitudinal research in which measures are taken at different times (Wang, 2013). For this study, time too was limited to achieve the research goal by use of longitudinal research. However, a causal effect would show a more in depth effect for giftedness characteristics and burnout.

Third, as already illustrated in the results section, the number of respondents in the quantitative study was not as high as was aimed for. Therefore, many effects were not significant in the logistic regression analyses. More significant effects would probably have been found with a larger sample, as sample size influences statistical power. Therefore, effects of $p < .10$ were considered significant and effects of a p between $.10$ and $.20$ were considered noteworthy. Due to few significant results (or results considered with a p value of $.10$ instead of $.05$), it is difficult to build a new theory or provide clear-cut indicators for the adjustment of the JD-R model to gifted individuals. However, the results suggest that an adjustment or new theory regarding burnout among gifted individuals should be made (see *Future research*).

Lastly, in the quantitative study, some scales were self-made. Therefore, the construct validity of these scales cannot be guaranteed as these scales were not tested a priori. Therefore, one should be cautious regarding the validity of these scales. For the burnout measure, the MBI scale was self-made since the original scale was too comprehensive for this study. As an alternative for the MBI scale, six items were built which reflected the burnout dimensions (as discussed in the theoretical section). Therefore, it was ought to increase the content validity of the burnout measurement even though the construct validity was damaged.

Future research

This study promotes many important questions for gifted employees at the workplace. As already stated in the limitations section, more in-depth and vaster (longitudinal) research should be conducted to test whether the results found in this study apply to a larger sample of gifted individuals and to which extent more significant effects in the conceptual model can be found. The adjustment of the JD-R model to gifted individuals could serve as a start for further research to investigate to which extent the JD-R model can be applied to gifted individuals and to which extent the adjustment made in this study can be generalized to gifted individuals as a whole. In this research, the construct ‘motivation’ in the original JD-R model was omitted. However, this construct could also become of interest in future research concerning gifted individuals in the workplace. Also, a more in depth investigation of the relationship between supervisor and coworker support should be done in order to investigate how the (perception of) supervisor and coworker support is exactly formed.

In July 2016, this study will be presented at the SENG conference¹⁶. Hopefully, this study and its presentation will encourage other researchers to investigate the issues presented in this study further and help to gain more knowledge regarding burnout among gifted individuals.

¹⁶ SENG is a non-profit organization that offers information concerning giftedness gifted and non gifted individuals. SENG’s goal is to empower, support and connect gifted individuals (both children and adults). Each year, SENG organizes a conference in which giftedness topics are elaborated upon. For more information, see sengifted.org/.

REFERENCES

- Anderson, V. (2013). *Research methods in human resource management*. London, UK: Chartered Institute of Personnel and Development.
- Bakker, A. B., & Demerouti, E. (2006). The Job Demands-Resources model: State of the art. *Journal of Managerial Psychology*, 22(3), 309-328.
- Bakker, A. B., Demerouti, E., & Verbeke, W. (2004). Using the Job Demands-Resources model to predict burnout and performance. *Human Resource Management*, 43(1), 83-104.
- Bergsma, A., & Schaufeli, W. B. (2013). Positieve psychologie in organisaties. In E. T. Bohlmeijer, L. Bolier, G. J. Westerhof, & J. A. Walburg (ed.), *Handboek positieve psychologie: theorie, onderzoek & toepassingen* (pp. 311-324). Amsterdam, the Netherlands: Boom.
- Boeije, H. (2005). *Analyseren in kwalitatief onderzoek*. Den Haag, the Netherlands: Boom Onderwijs.
- Byrne, B. M. (1991). The Maslach Burnout Inventory: Validating factorial structure and invariance across intermediate, secondary, and university educators. *Multivariate Behavioral Research*, 26(4), 583-605.
- CBS/TNO. (2015). Een op de zeven werknemers heeft burn-outklachten. Retrieved from <http://www.cbs.nl/nl-NL/menu/themas/arbeid-sociale-zekerheid/publicaties/artikelen/archief/2015/cbs-en-tno-een-op-de-zeven-werknemers-heeft-burn-outklachten.html>.
- Cordes, C., & Dougherty, T. W. (1993). A review and an integration of research on job burnout. *Academy of Management Review*, 18(4), 621-656.
- Corten, F., Nauta, N., & Ronner, S. (2006). Hoogbegaafde medewerkers: Sleutel tot innovatie? Paper presented at the *Internationale HRD-congres 2006*. Retrieved from <http://www.noksnauta.nl/hrd%20congres%20paper%202006%20definitief%20ndl.pdf>.
- Creswell, J. W., & Plano Clark, V. L. (2007). *Mixed methods research: Designing and conducting*. Thousand Oaks, CA: Sage Publications.
- Devloo, T., Anseel, F., De Beuckelaer, A., & Salanova, M. (2015). Keep the fire burning: Reciprocal gains of basic need satisfaction, intrinsic motivation and innovative work behaviour. *European Journal of Work and Organizational Psychology*, 24(4), 491-504.

- Ducharme, L. J., & Martin, J. K. (2000). Unrewarding work, coworker support, and job satisfaction a test of the Buffering Hypothesis. *Work and Occupations*, 27(2), 223-243.
- Eisenberger, R., Huntington, R., Hutchison, S., & Sowa, D. (1986). Perceived organizational support. *Journal of Applied Psychology*, 71(3), 500– 507.
- Elite Research LLC. (2013). [PROCESS Moderation and Mediation on SPSS]. Retrieved from http://orsp.kean.edu/documents/Moderation_Meditation.pdf
- Erickson, L. (2011). Perfectionism: From the inside out or the outside in? [web page]. Retrieved from <http://highability.org/>.
- Field, A. (2009). *Discovering statistics using SPSS*. London, UK: Sage publications.
- Frost, R. O., Marten, P., Lahart, C., & Rosenblate, R. (1990). The dimensions of perfectionism. *Cognitive Therapy and Research*, 14(5), 449-468.
- Haines, V. A., Hurlbert, J. S., & Zimmer, C. (1991). Occupational stress, social support, and the buffer hypothesis. *Work and Occupations*, 18(2), 212-235.
- Hakanen, J. J., Schaufeli, W. B., & Ahola, K. (2008). The Job Demands-Resources model: A three-year cross-lagged study of burnout, depression, commitment, and work engagement. *Work & Stress*, 22(3), 224-241.
- Halbesleben, J. R. B., & Buckley, M. R. (2004). Burnout in organizational life. *Journal of Management*, 30(6), 859-879.
- Hayes, A. F. (2013). *Introduction to mediation, moderation, and conditional process analysis: A regression-based approach*. New York, NY: Guilford Press.
- Hobfoll, S. E. (1988). *The ecology of stress*. New York, NY: Hemisphere.
- IHBV. (2014). *Vastgelopen door té slim te zijn?* [leaflet] N.P.: IHBV.
- Johnson, J. V., & Hall, E. M. (1988). Job strain, work place social support and cardiovascular disease: A cross-sectional study of a random sample of the Swedish working population. *American Journal of Public Health*, 78(10), 1336-1342.
- Koeske, G. F., & Koeske, R. D. (1989). Construct validity of the Maslach Burnout Inventory: A critical review and reconceptualization. *The Journal of Applied Behavioral Science*, 25(2), 131-144.
- Kooijman-Van Thiel, M. B. G. M. (2008). *Hoogbegaafd. Dat zie je zó! Over zelfbeeld en imago van hoogbegaafden*. Ede, the Netherlands: OYA Productions.
- Lovecky, D. V. (1986). Can you hear the flowers singing? Issues for gifted adults. *Journal of Counseling & Development*, 64(9), 572-575.
- Maslach, C. (1982). *Burnout: The cost of caring*. Englewood Cliffs, NY: Prentice Hall.
- Maslach, C., & Jackson, S. E. (1981). The measurement of experienced burnout. *Journal of*

- Organizational Behavior*, 2(2), 99-113.
- Meijman, T.F., & Mulder, G. (1998). Psychological aspects of workload. In Drenth, P.J., Thierry, H., & de Wolff, C.J. (Eds), *Handbook of Work and Organizational Psychology* (2nd ed.). Oxford, UK: Taylor & Francis.
- Nauta, N., & Corten, F. (2002). Hoogbegaafden aan het werk. *Tijdschrift voor Bedrijfs- en Verzekeringsgeneeskunde*, 10(11), 343-346.
- Nauta, N., & Ronner, S. (2007). *Ongeleide projectielen op koers: werken en leven met hoogbegaafdheid*. Amsterdam, the Netherlands: Pearson.
- Nauta, A. P., & Ronner, S. (2008). Hoogbegaafdheid op het werk: Achtergronden en praktische aanbevelingen. *TBV*, 16(9), 396-399.
- Netemeyer, R. G., Bearden, W. O., & Sharma, S. (2003). *Scaling procedures: Issues and applications*. Thousand Oaks, CA: Sage Publications.
- Persson, R. S. (2009). Intellectually gifted individuals' career choices and work satisfaction: A descriptive study. *Gifted and Talented International*, 24(1), 11-24.
- Reijseger, G., Peeters, M. C. W., & Taris, T. W. (2013). *Werkbeleving onder hoogbegaafde werkers: Definitief rapport meting 1* (report). Retrieved from University of Utrecht: file:///C:/Users/s4115473/Downloads/130107%20%20%20HB_samenvattendrapportT1DEF_jan2013.pdf.
- Reijseger, G., Schaufeli, W. B., Peeters, M. C., Taris, T. W., van Beek, I., & Ouweneel, E. (2013). Watching the paint dry at work: Psychometric examination of the Dutch Boredom Scale. *Anxiety, Stress & Coping*, 26(5), 508-525.
- Resing, W., & Drenth, P. (2007). *Intelligentie: meten en weten*. Amsterdam, the Netherlands: Uitgeverij Nieuwezijds.
- Rinn, A. N., & Bishop, J. (2015). Gifted adults: A systematic review and analysis of the literature. *Gifted Child Quarterly*, 59(4), 213-235.
- Schaufeli, W. B., & Bakker, A. B. (2004). Job demands, job resources, and their relationship with burnout and engagement: A multi-sample study. *Journal of Organizational Behavior*, 25(3), 293-315.
- Schaufeli, W. B., Maslach, C., & Marek, T. (1993). The future of burnout. In Schaufeli, W.B., Maslach, C., & Marek T. (Eds.), *Professional burnout: Recent developments in theory and research* (pp. 253-259). Washington, DC: Taylor & Francis.
- Scott, H. (2009). What is Grounded Theory? Retrieved from <http://www.groundedtheoryonline.com/what-is-grounded-theory>.
- Siegrist, J. (1996). Adverse health effects of high effort-low reward conditions. *Journal of*

- Occupational Health Psychology*, 1(1), 27-41.
- Spector, P. E., & Jex, S. M. (1998). Development of Four Self-Report Measures of Job Stressors and Strain: Interpersonal Conflict at Work Scale, Organizational Constraints Scale, Quantitative Workload Inventory, and Physical Symptoms Inventory. *Journal of Occupational Health Psychology*, 3(4), 356-367.
- Sternberg, R. J. (2003). WICS as a model of giftedness. *High ability studies*, 14(2), 109-137.
- Stock, R. M. (2014). Is boreout a threat to frontline employees' innovative work behavior? *Journal of Product Innovation Management*, 32(4), pp unknown.
- Strauss, A. L., & Corbin, J. (1998). *Basics of qualitative research: Techniques and procedures for developing grounded theory*. Thousand Oaks, CA: Sage Publications.
- Streznewski, M. L. (1999). *Gifted grownups: The mixed blessings of extraordinary potential*. New York, NY: Wiley.
- Thompson, C. A., & Prottas, D. J. (2006). Relationships among organizational family support, job autonomy, perceived control, and employee well-being. *Journal of Occupational Health Psychology*, 11(1), 100-118.
- Vodanovich, S. J., Wallace, J. C., & Kass, S. J. (2005). A confirmatory approach to the factor structure of the Boredom Proneness Scale: Evidence for a two-factor short form. *Journal of Personality Assessment*, 85(3), 295-303.
- Waal, I. van der, Nauta, N., & Lindhout, R. (2013). Labour disputes of gifted employees. *Gifted and Talented International*, 28(1), 163-172.
- Wang, M. (2013). Longitudinal research. Retrieved from <http://www.oxfordbibliographies.com/view/document/obo-9780199846740/obo-9780199846740-0028.xml>.
- Verschuren, P. J. M., & Doorewaard, H. (2007). *Het ontwerpen van een onderzoek*. Amsterdam, the Netherlands: Boom.
- Weijters, B., Cabooter, E., & Schillewaert, N. (2010). The effect of rating scale format on response styles: The number of response categories and response category labels. *International Journal of Research in Marketing*, 27(3), 236-247.
- Zuckerman, M., Eysenck, S., & Eysenck, H. J. (1978). Sensation seeking in England and America: Cross cultural, age, and sex comparisons. *Journal of Consulting and Clinical Psychology*, 46(1), 139-149.