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„Diversity and Resilience in Organizations: Effects on  
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## **Abstract**

Diversity in the workplace is an increasingly present feature that organizations see themselves confronted with. The modern work environment is also characterized by an increase in demands and therefore resilience has become a key resource to foster in employees. This study investigated the effects of diversity and resilience on work-related outcomes within the framework of the Job Demands-Resources model. The suggestion was made, that diversity is a demand and related to the employee outcomes conflict, organizational commitment and work engagement. In addition, it was hypothesized that diversity beliefs and diversity climate moderate this relationship. Additionally, resilience was suggested to moderate or mediate on the relationship between job demands, job resources and their respective outcomes. Therefore, an online survey was conducted among 138 knowledge workers from different industries. Results suggested that diversity had a positive impact on work engagement and commitment, although no moderation by diversity beliefs/climate could be found. Unexpectedly, there was no mediation found for resilience. However, resilience moderated the relationship between emotional demands and exhaustion as well as between diversity and work engagement. The implications of these findings regarding diversity, resilience and the JD-R model are discussed.

Keywords: Diversity, Resilience, Job Demands-Resources model

## **Zusammenfassung**

Diversität am Arbeitsplatz ist eine Thematik, mit der sich Organisationen immer mehr konfrontiert sehen. Die moderne Arbeitsumgebung ist zudem gekennzeichnet von einem Anstieg der Anforderungen und dadurch ist Resilienz eine zentrale Ressource geworden, die es in MitarbeiterInnen zu fördern gilt. Diese Studie erforscht die Wirkung von Diversität und Resilienz auf arbeitsbezogene Ergebnisse innerhalb des Job Demands-Resources Modells. Es wird angenommen, dass Diversität eine Anforderung ist, die im Zusammenhang mit den MitarbeiterInnenvariablen Konflikt, Commitment und Arbeitsengagement steht. Zusätzlich wird vermutet, dass die Einstellung zu Diversität und das Diversitätsklima diese Beziehung als Moderatorvariablen beeinflussen. Weiterhin wird angenommen, dass Resilienz als Moderator bzw. Mediator die Beziehung zwischen Job Demands, Job Ressourcen und ihren entsprechenden Folgevariablen beeinflusst. Hierzu wurde eine Online-Umfrage unter 138 Wissensarbeitern aus verschiedenen Branchen durchgeführt. Den Ergebnissen zufolge gibt es einen positiven Einfluss von Diversität auf Commitment und Arbeitsengagement, obwohl keine Moderatoreffekte von Diversitätsklima und Diversitätseinstellungen gefunden wurden. Entgegen den Erwartungen konnte keine Mediation für Resilienz nachgewiesen werden. Allerdings beeinflusste Resilienz als Moderatorvariable den Zusammenhang zwischen emotionalen Anforderungen und Erschöpfung sowie zwischen Diversität und Arbeitsengagement. Die Bedeutung der Ergebnisse im Bezug auf Diversität, Resilienz und das Job Demands-Resources Modell werden erörtert.

Schlüsselbegriffe: Diversität, Resilienz, Job Demands-Resources Modell



## Introduction

The last decades have seen an acceleration of our society, which is characterized by increasing complexity as well as fast-changing requirements in the workplace (Rosa, 2005). Through the economical, technological and social changes that have occurred since then, individuals are affected by transformation of their everyday-lives. Globalization and the increased competitiveness that followed have changed working and living conditions. While on the one hand new demands emerged from this development, on the other hand, job resources that help individuals cope with the challenges of the modern workplace have been created and are an integral part of modern HR management.

To describe the various relations between job demands, job resources and their effects on employee well-being, commitment and work engagement, the Job Demands-Resources (JD-R) model (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner, & Schaufeli, 2001) has been established as a well-researched framework. The model has been expanded by personal resources (Xanthopoulou, Bakker, Demerouti, & Schaufeli, 2007), which influence the relationship between job demands, job resources and their respective outcomes. One example of a personal resource is resilience, which is increasingly relevant at work and has been given attention as “the developable capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress, and increased responsibility” (Luthans, 2002, p.702). With growing psychological strain and work-related mental health problems on the rise (Ulich, 2013), fostering employees’ resilience is an important asset for organizations (Luthans, 2006).

Another aspect of the modern workplace is the increased diversity that our societies will experience and the challenges and opportunities that follow (Putnam, 2007). Accordingly, workforce diversity has been researched as a central factor that influences the functioning and work outcomes of teams and organizations as a whole (van Knippenberg, De Dreu, & Homan, 2004; van Knippenberg & Schippers, 2007). In the context of this study, the distinction between objective and subjective diversity as well as between diversity as a challenge or hindrance is made. While the effects of diversity have been researched extensively in the past decades, the recent years have shown the important role that diversity beliefs and diversity climate play in this relationship (van Dick, van

Knippenberg, Hagele, Guillaume, & Brodbeck, 2008; van Knippenberg & Schippers, 2007). However, these constructs have not yet been investigated using a research model that does not solely focus on diversity but is widely used to describe and improve work and health conditions for employees (Schaufeli & Taris, 2014).

This diploma thesis investigates how resilience and subjectively perceived diversity affect the interaction of job resources and job demands with employee outcomes in the JD-R model framework, proposing that the inclusion of diversity, diversity climate and diversity beliefs will add to its predictive value. The question is asked how subjectively perceived diversity affects the employee variables commitment, work engagement and conflict and how this relationship is influenced by the diversity climate within organizations as well as the beliefs individuals hold about diversity. As the first integration of diversity into the JD-R model, the present study seeks to add to the knowledge of how we look at diversity and its impact on work environments.

## **1. Theoretical Background**

The following part gives an overview of the relevant theoretical concepts that build the foundation for this diploma thesis. At first, the two concepts of diversity and resilience are described and their relevance for modern work environments is discussed. Second, the Job Demands-Resources (JD-R) model is introduced as the theoretical framework in which resilience and diversity will be embedded. In this part, the extension of the JD-R model by personal resources as well as the role of resilience, diversity climate and diversity beliefs will also be included. Finally, the research model as a whole is presented.

### **1.1. Diversity, Resilience and their relevance in modern work environments**

As our society will grow more diverse in the coming decades (Putnam, 2007), diversity is becoming an increasingly present feature of the modern workplace. Organizations are acknowledging more and more the necessity not only to be considerate with diversity, but to manage and embrace it as a whole. There are various reasons why it is more and more relevant for companies today, as Stegmann (2011) describes: Initially, there are the demographic development and the resulting change in the workforce composition. Accordingly, anti-discrimination legislation is reaching further as it has been in the past, bringing even small companies to the point where they have to be attentive of diversity-related topics. In a globalized business world, work teams and organizations as a whole are also getting more diverse, employing highly specialized professionals from different backgrounds in cross-functional teams around the globe (Stegmann, 2011). Finally, ethnic diversity will increase considerably in essentially all modern societies, due to immigration, as Putnam (2007) describes. He also argues that in the short to medium run, this will be a challenge for solidarity and hinder growth of social capital. In the long term, though, he foresees cultural and economic benefits from new forms of social solidarity and newly found identities.

His view describes the nature of diversity, namely that for modern societies and companies there are risks as well as opportunities, both of which need to be addressed. The perspective of short term versus long term effects also describes the development of diversity research itself, which has originally been more focused on ethical perspectives

and avoidance of conflict, focusing more on the unfavourable aspects of diversity (Jackson & Joshi, 2011; Pelled, Eisenhardt, & Xin, 1999). In recent years, the attention has shifted towards the possible benefits that diversity holds, making the “business case” for diversity a popular topic (Herring, 2009; Miller & Triana, 2009; Robinson & Dechant, 1997). The attitude towards diversity and individual beliefs that people hold about this topic may well play a big role in how the opportunities are seized and conflict is avoided, thus promoting the importance of diversity climate (van Knippenberg & Schippers, 2007), at which we will look as well as diversity itself. As Köppel, Yan, & Lüdicke (2007) describe in their study, in the UK and the USA, diversity management is a key element of organizations and nearly all companies (92 %) practice diversity management. The authors claim that Germany is dragging behind with only 40% of companies practicing cultural diversity management, although Germany is the country with the third-biggest proportion of immigrants (8,4 %) in the European Union, just behind Luxembourg (37,5 %) and Austria (9,4 %). For Köppel et al. (2007), key elements are the acceptance, perception and handling of diversity as an organizational resource rather than a cost-intensive demographic necessity. Eventually, increased diversity in our societies will be a matter of fact that needs to be addressed on all levels of society, the workplace being one of them.

The modern work environment is also characterized by an increase in mental and psychic demands that result in a rise in mental health problems (Junghanns & Morschhäuser, 2013). On a wider scale, Rosa (2005) describes how the increasing complexity and the requirements of modern work have changed over the last years, alongside with a general acceleration of life. Junghanns & Morschhäuser (2013) exemplarily illustrate these developments: To begin with, accelerated technological and organizational change demands increased flexibility of employees and goes along with occupational uncertainty. Rationalizing and staff reduction cause a rise in workload and enlarged responsibilities, so do information overload and interruption of work. Work itself is increasingly flexible in terms of time and location of work, as the lines between work and personal life seem to become more blurred, Junghanns & Morschhäuser (2013) describe. The authors also see management by objectives and other forms of target agreement for employees as characteristic for increased personal responsibility at work. As Junghanns &

Morschhäuser (2013) conclude, those trends illustrate how individuals today and in the future experience more mental and psychological challenges at the workplace.

In result, mental illness due to workplace-related issues is on the rise. For example in Germany, absence from work due to the diagnose group “mental and behavioural disorders” (ICD 10/V) have doubled from 6,6% to 13,1% of all cases in the years from 2001 to 2010 (Federal Institute for Occupational Safety and Health, BAuA, (Ulich, 2013). The general acceleration of work and on-going stress are reasons for this development and they also contribute to another statistic, as they are main factors for the occurrence of depressive disorders. The World Health Organization (WHO) estimates, that until 2020, depressive disorders will be the number two illness on the global burden of disease index, which highlights the negative effects of an illness worldwide (WHO, 2001, cited in Ulich, 2013). The developments of resources, both on an individual and on the job level, are a key to manage the increasing demands of the modern workplace people are confronted with.

This is where resilience as a central personal resource comes into play. Luthans (2002) describes resilient individuals to be more effective in a “fuzzier” world, as organizations now find themselves, and thus makes the case for the carry-over to the workplace (resilience originally stems from more clinical research). With the costs of work-related health problems on the rise globally, resilience becomes an important factor to develop on an individual and organizational level. Taken together, diversity and resilience seem to be central factors for organizations in the present and will be even more so in the not so distant future. In the following, the conceptualizations and effects of diversity, diversity climate, diversity beliefs and resilience will be looked at in more detail.

### **1.1.1. Diversity: Definition, Conceptualization**

There are a lot of different definitions for diversity. Harrison & Sin (2006, p.196) offer the definition, that “diversity is the collective amount of differences among members within a social unit”. This makes room for a wide range of diversity, as van Knippenberg & Schippers (2007) similarly state, that “diversity is typically conceptualized as referring to differences between individuals on any attribute that may lead to the perception that another person is different from self” (p.517).

These very basic definitions are complemented by more detailed conceptualizations, Harrison & Klein (2007) for example discuss three types of diversity, namely separation, variety and disparity: Separation occurs, when members of a group are placed on different positions of a continuous attribute (e.g. resilience, commitment) and is at its maximum when one half of the group is at the minimum and the other half at the maximum of the continuum. Variety on the other hand is at its maximum when members of a unit differ from each other qualitatively (e.g. functional background, country of origin) on a categorical attribute. Disparity is present, when members outmatch others on a valued asset or resource (e.g. money, professional experience) as it involves asymmetry.

While these definitions allow for a detailed account of diversity, outside of academic research usually more pre-defined concepts are being used. In the workplace, diversity is commonly conceptualized around the core dimension of personality, surrounded by six dimensions that are split up further in circles. These main dimensions are usually gender, nationality and ethnicity, social class background, sexual orientation, age, mental and physical capability and religion / worldview (Gardenswartz & Rowe, 1994). While in theory these elements are equal to each other, within the German-speaking countries it is usually gender and nationality/ethnicity that are receiving the most attention (Krell & Wächer, 2006). Apart from these main categories, researchers often include additional perspectives. For example, van Knippenberg & Schippers (2007) stress the importance of subjectively perceived and objectively present diversity, since people are not automatically aware of objective differences or the fact that subjective differences might be linked to more objective differences.

The numerous conceptualizations of diversity leave organizations with countless possibilities to manage diversity and make it difficult to measure and control the effects diversity has. This diploma thesis, however, will look at the subjectively perceived diversity along the dimensions cultural background, ethnicity, age, gender and religious beliefs. In order to account for variables that might influence the effects of these dimensions, diversity climate and diversity beliefs are included.

### 1.1.2 Diversity Climate and Diversity Beliefs

Although research on diversity in organizations is growing exponentially (Harrison & Sin, 2006), there are no straight-forward findings with respect to the positive or negative effects of diversity in organizations. In their review on the state of diversity research, van Knippenberg & Schippers (2007) conclude, that “It seems time to declare the bankruptcy of the main effects approach and to argue for models that are more complex and that consider moderating variables in explaining the effects of diversity”.

The authors describe one of these moderating variables as “diversity mind-sets”, meaning that the effects of diversity are more likely to be positive in environments where people hold favourable beliefs about diversity and are able to make use of the benefits it can provide to a group or a work team (van Knippenberg & Schippers, 2007). These mind-sets can be broken down further into diversity beliefs and diversity climate, which are similar, yet distinct concepts. One definition of diversity beliefs offered by (van Dick et al., 2008) describes it as

*“Beliefs individuals hold about how group composition affects workgroup functioning, that is, the extent to which individuals perceive diversity to be beneficial for or detrimental to the group’s functioning.” (p. 1467).*

Using the term “workgroup functioning”, the authors make it clear that the beliefs towards diversity are concerned with instrumental value for the performance of the group, not whether diversity is perceived positive or negative for its own inherent value.

Diversity climates on the other hand can be described as the shared norm regarding the value of diversity as seen by groups and organizations (Stegmann, 2011). This definition allows for a more collective approach, focusing on desirable outcomes for work teams, business units or organizations as a whole. Subsequently, we can observe a shift away from the idea of ethical perspectives, such as inclusion and non-discrimination, to the “presentation of a solid business case” for diversity (Robinson & Dechant, 1997). It becomes clear that there are many different factors that influence how we conceptualize and perceive diversity, depending on the point of view of individuals, groups and organizations as well as the environments in which they are embedded.

### 1.1.3. Resilience in the Job Context

Just like for diversity, there are numerous conceptualizations of resilience. Originating from research in clinical psychology about work with adolescents that have succeeded in face of great adversity (Masten, 2001; Masten & Reed, 2002), resilience has been given more widespread attention in the recent years, especially within Positive Psychology. Stewart, Reid & Mangham (1997, p.22) describe it as “the capability of individuals to cope successfully in the face of significant change, adversity, or risk. This capability changes over time and is enhanced by protective factors in the individual and environment”.

These definitions suggest that resilience is a feature that comes into play when facing challenges or great adversity and is usually more applicable in a clinical setting. However, the research of Masten (2001; Masten&Reed, 2002) proposes that resilience can be developed by strategies that are compatible and useful within the place of work, using strategies that incorporate assets, risks and focus. In line with this, she states that resilience comes “from the everyday magic of ordinary, normative human resources” and “has profound implications for promoting competence and human capital in individuals and society” (Masten, 2001, p.235). This more generalized account of resilience makes it more applicable to the modern work environment which is being done increasingly.

Apart from the main factor of having caring and supportive relationships within and outside the family, the American Psychological Association (APA)<sup>1</sup> lists central factors of resilience, all of which people can develop in themselves: First, the ability to make realistic plans and being capable of taking the steps necessary to follow through with them. Second, a positive self-concept and confidence in one’s strengths and abilities. Third, communication and problem-solving skills and finally, the ability to manage strong impulses and feelings. Different authors from different backgrounds account for the variety of definitions, often emphasizing distinct features of resilience. Coutu (2002) describes common themes/profiles of resilient people to be (a) a staunch acceptance of reality, (b) a

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<sup>1</sup> <http://www.apa.org/helpcenter/road-resilience.aspx>, retrieved 25.02.14

deep belief, often buttressed by strongly held values, that life is meaningful, and (c) an uncanny ability to improvise and adapt to significant change (Coutu, 2002, p. 4).

From its origins in clinical psychology, resilience has entered the field of occupational and work psychology, getting integrated in models of human resource management. For instance, as a core element of positive organizational behaviour (POB), Luthans (2002, p.702) defines resilience as „the developable capacity to rebound or bounce back from adversity, conflict, failure or even positive events, progress, and increased responsibility“. In doing so, he focuses not only on negative events, but emphasizes change as it may occur in a business context, while addressing the state-like and developable nature of resilience. In line with this, resilience has been found to be related to work attitude of satisfaction, happiness, and commitment (Youssef & Luthans, 2007). Altogether, resilience has been introduced as an important capability in the workplace that HR professionals need to invest in (Luthans, 2006).

## **1.2. Job Demands-Resources Model (JD-R) Model**

When describing modern work environments and their characteristics in the last ten years, the Job Demands-Resources (JD-R) model has emerged as a prominent way to do so. Demerouti et al., (2001) originally developed it to describe the relations between job demands and emotional exhaustion as well as between job resources and disengagement. The model was later extended and focused on both, negative and positive indicators of employee wellbeing and performance (Bakker & Demerouti, 2007).

Since its original conception and extension, it has been used as a framework in a wide array of studies and within numerous companies as a tool for human resource management (see Bakker & Demerouti, 2007). The main assumption of the JD-R model states that every occupation has its own risk factors that are linked to job stress and that these factors can be divided into two categories, namely job demands and job resources (Bakker & Demerouti, 2007; Bakker, Demerouti, & Euwema, 2005; Demerouti et al., 2001). On the one hand,

*“Job demands refer to those physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and*

*emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs”* (Bakker & Demerouti, 2007, p. 312).

High work pressure, unfavourable physical environment and emotionally demanding client interactions are examples given by Bakker & Demerouti (2007). When talking about job demands, there has been a differentiation between challenge- and hindrance-stressors (Lepine, Podsakoff, & Lepine, 2005; Podsakoff, LePine, & LePine, 2007). Hindrance stressors are defined as job demands that involve excessive or unwanted constraints that interfere with or inhibit an individual’s ability to achieve important goals (Cavanaugh, Boswell, Roehling, & Boudreau, 2000). This definition goes along with the concept of job demands in the JD-R model and is considered a negative factor.

Stressors, on the other hand, are defined as challenging when potentially promoting the personal growth of the employee (Podsakoff et al., 2007). These demands have the potential to be seen as rewarding work experiences well worth the discomfort involved, and are therefore considered as “good” stressors (Demerouti & Bakker, 2011) and can be associated with job resources in the JD-R model. This distinction is especially relevant when we look at the ambiguous nature of diversity further on. On the other hand, job resources are similarly described as physical, psychological, social, or organizational factors that are constituted by some/all of the following aspects: They are functional in achieving work goals, reduce job demands and the associated costs and lastly, stimulate personal growth, learning and development (Bakker & Demerouti, 2007). These resources may be found at different levels within the organization: The organizations at large (e.g. pay, career opportunities, job security), the interpersonal and social relations (e.g. supervisor and co-worker support), the organization of work (e.g. role clarity, participation in decision making) and at the level of the task (e.g. skill variety, autonomy) itself (Bakker & Demerouti, 2007, p.312).

The opposite nature of these two constructs lies at the heart of the second premise of the JD-R model, namely that two underlying psychological processes are associated with the development of either engagement or exhaustion. First, the so called health impairment process describes how high job demands (often in addition to low job resources) lead to a

depletion of energy (and exhaustion) and therefore to health problems (Bakker & Demerouti, 2007; Demerouti et al., 2001). The second process is described as motivational in nature, assuming that job resources lead to motivation, which subsequently leads to high work engagement, lowered cynicism and excellent performance. Job resources may foster extrinsic or intrinsic motivation, either because they are functional in achieving work goals or because they nurture employee's personal growth and development (Bakker & Demerouti, 2007). The work environment and the organizational climate also play a motivational role, as Bakker & Demerouti (2007) state that supportive colleagues increase the likelihood of achieving one's work goals, which subsequently leads to more work engagement.

The two main processes – the health impairment process and the motivational process – are complemented by interaction effects between job demands and job resources, which are important for the development of either job strain or motivation. Bakker & Demerouti (2007) propose, that job resources may buffer the impact of job demands on job strain, including burnout and that there are different job resources that can play the role of a buffer for several different job demands. In line with these processes, job resources may buffer the impact of job demands on burnout (Bakker et al., 2005) as well as increase work engagement, particularly when job demands are high (Bakker, Hakanen, Demerouti, & Xanthopoulou, 2007).

Altogether, studies have confirmed the role of the JD-R model in predicting organizational outcomes, e.g. burnout and engagement (Bakker et al., 2005; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007), performance and commitment (Fred Luthans, Norman, Avolio, & Avey, 2008) as well as job satisfaction (Llorens, Schaufeli, Bakker, & Salanova, 2007). These outcomes are often influenced by personal resources of individuals, which play a central role in how people react to job demands as well as job resources.

### **1.2.1. Extension of the Model with Personal Resources**

The importance of personal resources when handling stress or adverse conditions has been recognized for a long time by Hobfoll (1989) and his Conservation of Resources (COR) theory. Originally, four kinds of resources are described, namely conditions (e.g.

marriage), objects (e.g. home), personal characteristics (resources that aid in stress resistance) and energies (e.g. time, money). There are two assumptions that are at the heart of the COR theory. The first is that in order to handle threatening conditions and prevent themselves from negative outcomes, employees invest in their resources (Hobfoll, 1989). Second, employees aim to collect and protect these resources, which tends to generate additional resources, generating so called resource caravans which lead to better coping and well-being (Hobfoll, 2002).

Recently these findings have been integrated into the JD-R model (Bakker & Demerouti, 2007), adding personal resources to its framework. Since then, personal resources have gained importance as a mediating and moderating factor on the relationship between job demands/job resources and organizational outcomes, as proposed by Xanthopoulou, Bakker, Demerouti, & Schaufeli (2007). The authors describe personal resources as aspects of the self that are generally linked to resiliency and conclude, that “personal resources play a significant role in the JD-R model since, together with job demands and job resources, they contribute in explaining variance in exhaustion and work engagement” (Xanthopoulou et al., 2007, p. 137). In a longitudinal study, Xanthopoulou, Bakker, Demerouti, & Schaufeli (2009) found a positive relationship between personal resources and work engagement and go even further, saying that personal resources and job resources are equally important in predicting work engagement.

Generally, personal resources can act as a moderator or mediator variable within the JD-R model. In the relationship between job demands and employee outcomes such as exhaustion and well-being, the moderator role is usually assumed (Bakker et al., 2007; Xanthopoulou et al., 2007). The mediating role is more common in the relationship between job resources and employee outcomes such as commitment and engagement (Luthans et al., 2008). Altogether, there are five ways in which personal resources have been integrated into the JD-R model, as Schaufeli & Taris (2014) describe in their review on the JD-R model: Personal resources directly impact well-being, personal resources moderate the relation between job characteristics and well-being, personal resources mediate the relation between characteristics and well-being, personal resources influence the perception of job characteristics and personal resources act as a “third variable” (For an

overview, see Schaufeli & Taris, 2014). For this study, only personal resources as moderators and mediators are of importance. While resilience has been identified in previous studies as a personal resource (Jackson, Firtko, & Edenborough, 2007; Luthans, Luthans, & Luthans, 2004; Youssef & Luthans, 2007), the concept of diversity climate and diversity beliefs as personal resources is a new approach. In the following chapters, we will look at diversity, diversity climate, diversity beliefs and resilience in their role as job demands, job resources and personal resources.

### **1.2.2. The Categorization-Elaboration Model of Diversity**

Historically, there are two theoretical perspectives that have influenced diversity research (Stegmann, 2011) and the categorization-elaboration model (CEM, van Knippenberg et al., 2004) has become the state of the art framework for diversity research that incorporates these two perspectives. On the one hand, the social categorization/similarity-attraction perspective states that similarities and differences within a group are the reason for the development of sub-groups within the overall entity and that people tend to prefer in-group over out-group members and that they are attracted to others based on similarity (Byrne, 1971; Tajfel, Billig, Bundy, & Flament, 1971; Tajfel & Turner, 1986, cited in Stegmann, 2011). This would cause for intergroup bias and less group identification amongst member of a work team. The consequences are increased conflict and a decrease in performance.

On the other hand, the information/decision-making perspective is based on the assumption that diverse groups have greater variety of skills, abilities, knowledge and informational resources, which makes them able to manage complex or difficult tasks better. A wider pool and variety of perspectives in more diverse groups brings about a more elaborate information processing, leading to increased performance (e.g., van Knippenberg, De Dreu, & Homan, 2004; van Knippenberg & Schippers, 2007). These perspectives have been seen as competing for a long time, as researchers focused on simple relationships between dimensions of diversity and outcomes without considering further moderating variables van Knippenberg & Schippers (2007) describe.

In consequence, they declare the “bankruptcy” of this “main effects approach”. The CEM provides the framework that integrates the two historical perspectives of the good and negative effects of diversity but includes additional factors that influence the main effects of diversity via mediation and moderation (for an overview, see van Knippenberg et al., 2004). Adding to the original framework of the CEM, Stegmann (2011) proposes that diversity beliefs and diversity climate may play such a moderating role, influencing the main effects of diversity on the outcome of work teams. Accordingly, diversity climate and diversity beliefs are included as moderators in this study.

### **1.2.3. Diversity in the JD-R Model**

As discussed before, the scientific community is not unanimous in its findings about the effects diversity has on employee outcomes and the role that moderators play is gaining in importance, since some studies show positive results of diversity while others claim that diversity has negative effects (van Knippenberg & Schippers, 2007).

To show some examples of both sides, Vodosek (2007) found that cultural diversity was associated with decreased group performance and that this effect was mediated through increases in conflict. Analysing different kinds of diversity and conflict, Pelled et al. (1999) found tenure diversity and race diversity to be positively associated with emotional conflict as well as functional background diversity with task conflict. Nevertheless, the authors found that diversity can both increase and decrease conflict, suggesting a complex link between work group diversity and work group functioning. Consequently, racial and gender diversity can have positive and negative effects on individual and group outcomes. For example, Cho & Mor Barak (2008) show that diversity plays a factor in organizational commitment of employees, namely that gender, age and tenure are related to commitment through the process of feeling included/excluded in the decision making. Findler, Wind, & Barak (2007) also found significant relationships between diversity and organizational-culture variables and between organizational-culture variables such as stress and social support to employee outcomes of well-being and organizational commitment.

On the positive effects side, Allen, Dawson, Wheatley, & White (2008) found diversity on management and non-management levels to be positively related to firm

performance. Similar findings by T. Miller & Triana (2009) showed, that the diversity of the board of directors led to higher organizational performance and that this effect was mediated through increased innovation. These results show that there is hard evidence for the positive effects of diversity and Herring (2009) confirms this with data from the National Organizations Survey, a national sample of for-profit business Organizations in the USA, in which he states: “diversity is associated with increased sales revenue, more customers, greater market share, and greater relative profits.” These studies give an idea that there is a variety of outcomes diversity can be attributed to.

This diploma thesis seeks to apply diversity and its effects to the JD-R model from two perspectives. On the one hand, diversity is perceived as a job demand in the sense of the Demand-Control model (Karasek, 1979) and the JD-R model (Bakker & Demerouti, 2007) and in consequence predicts psychological strain, in this case conflict. The distinction of job demands as challenge- or hindrance-stressors by Lepine et al. (2005) and Podsakoff et al. (2007) is especially relevant for the integration of diversity into the JD-R model, which this diploma thesis proposes. In line with this, diversity is seen as a job demand in the sense of a hindrance as well as a challenge stressor that has motivational potential in the sense of the JD-R model and leads to increased commitment and work engagement among employees.

In addition, the information elaboration theory of diversity states, that diverse work groups have greater variety of skills, abilities, knowledge and informational resources. Combining these findings with the effort-recovery model (Meijman & Mulder, 1998), which proposes that work environments that offer many resources encourage the willingness of people to dedicate their efforts and abilities to the work task, diversity may well be seen as a motivational resource within the JD-R model. Diversity, just like other job demands may be moderated by personal resources as described by Xanthopoulou et al. (2007). In the following chapters, we will look at diversity climate, diversity beliefs and resilience as such moderating and/or mediating resources.

#### **1.2.4. Diversity Climate and Diversity Beliefs**

As discussed before, the ambivalence of the research has led to a shift of focus away from direct effects of diversity, proposing to pay closer attention to the moderating or mediating processes, since the “main effects approach” seems to have failed in explaining the effects of diversity consistently (van Knippenberg & Schippers, 2007). In recent years, there seems to be an increase in studies that take the moderator/mediator role into consideration. In their study amongst 26 units of a US regional restaurant chain, Gonzalez & DeNisi (2009) found that at the individual level, diversity climate moderated the impact of demography on organizational commitment and on the organizational level moderated the effect of diversity on firm productivity and return on profit. They showed that when diversity climate was supportive, commitment was higher, as were return on income and productivity. Under an adverse diversity climate, race/ethnic heterogeneity was associated with lower return on income and productivity, showing how much of an impact diversity climate may have. Van Dick et al. (2008) confirm this perspective and found, “that it depends on the individuals diversity beliefs whether a high degree of subjective diversity has a negative or positive influence”. The authors conclude, “That pro-diversity beliefs seem to prevent negative effects of subjectively perceived diversity and thus might be able to facilitate positive consequences of diversity”.

Confirming this view, Stegmann (2011) found in a meta-analysis on the effects of pro-diversity beliefs, that the relationship between diversity and beneficial outcomes was more positive when pro-diversity beliefs were high. This means, that participants with pro-diversity beliefs experienced more beneficial outcomes than people that were indifferent or leaning more towards similarity. One of these outcomes may be the sales performance of employees, which McKAY, Avery, & Morris (2008) found to be moderated by diversity climate. Drawing from a sample of 6130 workers employed across 743 stores of a large U.S. retail organization, they found that racial-ethnic disparities were largest in stores with less supportive diversity climates and that Whites exhibited significantly higher sales performance than Hispanics but not Blacks, as moderated by diversity climate. In another study within a retail organization, McKAY et al. (2007) found that pro-diversity work climate perceptions would correlate most negatively with turnover intentions of employees.

The impact of diversity beliefs is further emphasized by Homan, van Knippenberg, Van Kleef, & De Dreu (2007), which studied the impact of diversity beliefs in groups that were given either homogeneous or heterogeneous information, to solve a task. Diversity beliefs moderated the relationship between informational diversity and performance, such that groups that were given diverse information performed better when they held pro-diversity beliefs rather than pro-similarity beliefs. Homan et al. (2007) conclude from their results, that “the present focus on diversity beliefs as moderator of the effects of work group diversity may thus also be seen as testifying to the value of a focus on the contingencies of the effects of diversity”. Taking these findings into account, it seems essential to include diversity climate and diversity beliefs when looking at the effects of diversity. Drawing from the extension of the JD-R model with personal resources and acknowledging the moderator role of diversity climate/beliefs, the two concepts are integrated as personal resources that moderate the relationship between diversity and the employee outcomes conflict, commitment and work engagement. Before the final research model is presented, the next chapter looks at the role of resilience in the JD-R model.

#### **1.2.5. Resilience in the JD-R Model**

Although generally seen as an important individual factor for well-being, resilience has only in the last decade been given more attention as a work-related resource. Despite resilience being an every-day observable factor (Masten, 2001), it is often looked at in organizations in extreme conditions or undergoing change (Fred Luthans, Avolio, Walumbwa, & Li, 2005). Hence, most studies about the JD-R model focused more on proactive factors like self-efficacy, hope, and optimism, while resilience has not been included as often (Bakker et al., 2007; Xanthopoulou et al., 2007, 2009; Schaufeli & Taris, 2014).

This study, however, looks at resilience as a single mediating and/or moderating factor in the JD-R model. So far, within the JD-R model, resilience has mostly been researched as part of higher order constructs such as Psychological Capital (PsyCap; Luthans et al., 2004). PsyCap consists of hope, efficacy, optimism and resilience and has been linked to performance and commitment of employees (Luthans et al., 2005, 2008). In

their two studies in a services and a high technology firm, Luthans, Norman, Avolio, & Avey (2008) showed the effects of resilience as a personal resource. The relationship between supportive climate and employee performance was mediated by PsyCap, meaning that a supportive organizational climate leads to higher psychological capital (including resilience) and in turn to higher employee performance. Also as a part of PsyCap, resilience was found to be positively correlated to supervisor-rated performance, as Luthans et al. (2005) found in their study among 422 Chinese workers. In line with these findings, Youssef & Luthans (2007) found that as a part of similar construct called Positive Organizational Behavior (POB), resilience is positively related to the organizational commitment of employees. In the last years, the positive effects of resilience on organizational behaviour have been given more and more attention (Avey, Wernsing, & Luthans, 2008; Jackson et al., 2007; Youssef & Luthans, 2007).

Within the JD-R model, resilience as a personal resource may have a mediating role between job resources and individuals performance, work engagement and commitment (Luthans et al., 2008; Xanthopoulou et al., 2007). This build-up of resources also confirms the resource caravans mentioned in the COR theory (Hobfoll, 1989, 2002). On the side of the health impairment process, resilience as a personal resource is assumed to act as a moderator between job demands and employee outcomes, for example buffering the negative effect of emotional demands on exhaustion, as Xanthopoulou et al. (2007) proposed.

Generally, job demands are associated with the exhaustion component of burnout (Demerouti et al., 2001) and personal resources in the JD-R model are assumed to work against this negative effect. More specific, “the definition of personal resources implies that they may buffer negative effects of job demands on burnout and exacerbate positive effects of job resources on engagement” (Schaufeli & Taris, 2014).

While it is clear that job demands lead to exhaustion and personal resources moderate this relationship, resilience as a single moderating factor on the effects of job demands within the JD-R model has not been researched before. As mentioned above, hope, efficacy and optimism had the precedence in the research of personal resources. In

conclusion, resilience as an individual factor may increase the positive effects of job resources as well as moderate the effects of job demands.

## 2. Research Questions and Hypotheses

The modern workplace is characterized by an increase in job demands and mental strain that employees see themselves confronted with, often leading to exhaustion and mental health problems (Junghanns & Morschhäuser, 2013; Ulich, 2013). In light of these developments, resilience has become a desirable attribute to develop in employees and its importance for surviving and thriving in the workplace has been emphasized by various authors (Coutu, 2002; Jackson et al., 2007; Luthans, 2006; Masten, 2001). At the same time, fostering job and personal resources has been recognized as an important feature of modern HR management practices that help employees cope with the requirements of their work, while at the same time staying engaged. The JD-R model has been established as such a research and HR management instrument that considers both, job resources and job demands (Bakker & Demerouti, 2007; Demerouti et al., 2001). It offers to predict the relation between work characteristics and psychological well-being, while job demands cause exhaustion and job resources cause engagement and commitment of employees (Bakker & Demerouti, 2007; Demerouti et al., 2001). From the combination of these findings, the following research question is derived:

Does resilience influence the relationship between job demands, job resources and their respective outcomes exhaustion, commitment and work engagement?

In a number of studies, the job resource supportive climate has been shown to impact positively on the commitment and work engagement of individuals and is considered a central aspect of the JD-R model (Bakker & Demerouti, 2007). In a study amongst 714 Dutch employees, social support was found by Xanthopoulou et al. (2007) to be related to work engagement. Investigating the effects of supportive climate, Luthans et al. (2008) found it to be positively related to organizational commitment of employees. Hence, the following hypotheses are derived:

*Hypothesis 1a: Supportive climate is positively related to commitment.*

*Hypothesis 1b: Supportive climate is positively related to work engagement.*

Regarding job demands, emotional demands are a core element that leads to emotional exhaustion, a main component of burnout. Confirming this, Schaufeli & Bakker (2004) found in their study in which they analyzed data from four independent samples and  $N = 1698$  individuals that burnout is mainly predicted by job demands. Furthermore, Xanthopoulou et al. (2007) found emotional demands, amongst other job demands, to be strongly related to emotional exhaustion. Hence, the following hypothesis is drawn:

*Hypothesis 1c: Emotional demands are positively related to emotional exhaustion.*

Diversity as a feature of the modern workplace that is only to increase in the years to come has been researched extensively, leading to positive as well as negative conclusions about its effects (van Knippenberg & Schippers, 2007). Recently, moderating variables like diversity climate and diversity beliefs have been identified to influence the effects of diversity on employee outcomes (van Dick et al., 2008; van Knippenberg & Schippers, 2007). The authors propose that depending on the vantage point, diversity may either lead to positive consequences like increased performance, engagement and commitment, or it may lead to more detrimental outcomes like conflict and decreased commitment. This study seeks to investigate the effects of diversity beliefs and diversity climate as moderators on the individual and group level.

From this perspective, the following research question arises:

Do diversity climate and diversity beliefs influence the relationship between diversity and employee outcomes?

Diversity has been proposed as either a demand or a resource in the sense of a challenge stressor within the JD-R model. Regarding the main effects of diversity, Herring (2009) found a number of positive effects of diversity on firm performance, including increased sales revenue, more customers, greater market share. Miller & Triana (2009) also found the diversity of the board of directors positively related to firm overall performance. Investigating the effects on commitment, Cho & Mor Barak (2008) show that gender, age and tenure are related to commitment. Findler, Wind, & Barak (2007) also found significant relationships between diversity and commitment through organizational-culture variables.

With respect to conflict, Pelled et al. (1999) showed in a sample of 45 work teams, that diversity may also be associated with emotional and task conflict. Similarly, Vodosek (2007) drew from data of 76 research groups and found cultural diversity to be related to intragroup conflict and decreased performance.

Investigating its moderator role, Gonzalez & DeNisi (2009) describe how supportive diversity climate impacted positively on commitment and return on profit. Similarly, Homan et al. (2007) showed that when given heterogeneous information to solve a problem, pro-diversity beliefs act as a moderator and in consequence lead to increased group performance. In addition, van Dick et al. (2008) demonstrated the role of diversity beliefs and showed, that the relationship between subjective diversity and identification is more positive in ethnically diverse project teams when group members hold beliefs that are pro-diversity. Taking together the possible negative (Pelled et al., 1999; Vodosek, 2007) and positive (Allen et al., 2008; Herring, 2009; Miller & Triana, 2009) effects of diversity and the role of diversity climate and diversity beliefs as moderators (van Dick et al., 2008), the following hypotheses are formulated:

*Hypothesis 2a: Diversity climate moderates the relationship between diversity and work engagement.*

*Hypothesis 2b: Diversity beliefs moderate the relationship between diversity and work engagement.*

*Hypothesis 2c: Diversity climate moderates the relationship between diversity and commitment.*

*Hypothesis 2d: Diversity beliefs moderate the relationship between diversity and commitment.*

*Hypothesis 2e: Diversity climate moderates the relationship between diversity and conflict.*

*Hypothesis 2f: Diversity beliefs moderate the relationship between diversity and conflict.*

Apart from job resources, personal resources play an essential role in the relationship between job demands/resources and their respective outcomes and have been confirmed in their moderating and mediating role. For example, Xanthopoulou et al. (2007) found personal resources to mediate between social support and work engagement. One such personal resource is resilience, which has been introduced as an element of POB and PsyCap and in has been linked to performance and commitment in two studies, drawing from data of N = 1032 and N = 232 individuals (Youssef & Luthans, 2007). Similarly, using three diverse samples, Luthans et al. (2008) found resilience as a part of PsyCap to mediate between supportive climate and employees' performance. In addition, resilience was found be related to commitment and performance. Hence, the following hypotheses are derived:

*Hypothesis 3a: Resilience mediates the relationship between supportive climate and commitment.*

*Hypothesis 3b: Resilience mediates the relationship between supportive climate and work engagement.*

In addition to the mediating role, resilience as a personal resource is proposed to play a moderating role on the effects of job demands (Schaufeli & Taris, 2014; Xanthopoulou et al., 2007). As shown before, diversity can be seen as either a challenge or hindrance stressor and may lead to an increase or decrease in work engagement. Assuming this and considering a moderator role for resilience, the final hypotheses are:

*Hypothesis 4a: Resilience moderates the relationship between diversity and work engagement.*

*Hypothesis 4b: Resilience moderates the relationship between emotional demands and emotional exhaustion.*

This study seeks to offer additional insight on the effects of workplace-related demands and resources in an increasingly diverse society. In order to do so, diversity as a demand, further divided into challenge and hindrance stressors as well as the moderators diversity climate/beliefs have been added to the JD-R model. Accordingly, the hypotheses for this study have been drawn and are listed in table 1. Furthermore, a research model based on the research questions is illustrated below.

**Table 1.** Hypotheses of the present study

|    |                                                                                                |
|----|------------------------------------------------------------------------------------------------|
| 1a | Supportive climate is positively related to organizational commitment.                         |
| 1b | Supportive climate is positively related to work engagement.                                   |
| 1c | Emotional demands are positively related to emotional exhaustion.                              |
| 2a | Diversity climate moderates the relationship between diversity and work engagement.            |
| 2b | Diversity beliefs moderate the relationship between diversity and work engagement.             |
| 2c | Diversity climate moderates the relationship between diversity and organizational commitment.  |
| 2d | Diversity beliefs moderate the relationship between diversity and organizational commitment.   |
| 2e | Diversity climate moderates the relationship between diversity and conflict.                   |
| 2f | Diversity beliefs moderate the relationship between diversity and conflict.                    |
| 3a | Resilience mediates the relationship between supportive climate and organizational commitment. |
| 3b | Resilience mediates the relationship between supportive climate and work engagement.           |
| 4a | Resilience moderates the relationship between diversity and work engagement.                   |
| 4b | Resilience moderates the relationship between emotional demands and emotional exhaustion.      |

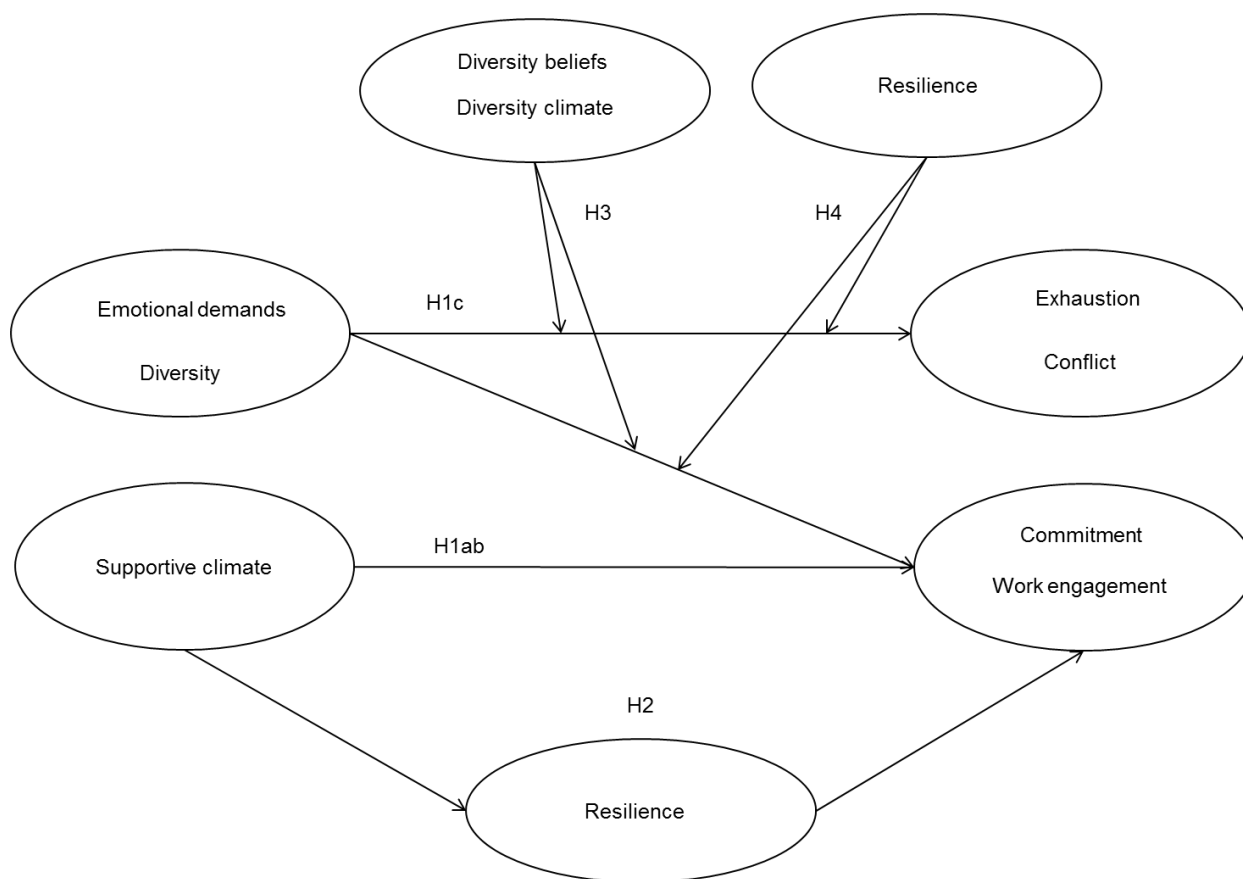


**Figure 1.** Research model and hypotheses

### 3. Method

The study was designed as a cross-sectional study. In the following, the sample, material, procedure and data analysis of the study are described in detail.

#### 3.1. Sample

The sample consisted of knowledge workers that were employed by a single company (no self-employed workers were included in the sample). Peter Drucker coined the term knowledge worker in his 1959 book “landmarks of tomorrow” and (Davenport, 2005) describes them in this way: “Knowledge workers have high degrees of expertise, education, or experience, and the primary purpose of their jobs involves the creation, distribution, or application of knowledge”. The sample was chosen this way, assuming that knowledge workers are most affected by the changing requirements of the modern workplace.

The participants of the study were recruited through personal contacts within selected companies from various industries, including but not limited to: Information Technology, Insurance, Engineering, Media and Business Consultants. Three companies contributed the main portion of the sample (45%), the remaining participants were acquired through personal contacts. The study was spread via Email and included a covering letter and the link to the questionnaire (see Appendix). To avoid participants outside of this group, the link to the questionnaire was not made public and individuals and companies were asked not to spread the link on their own.

There were  $N = 138$  valid sets of data (204 participants started the survey in total, 66 were excluded due to missing data). The sample consisted of 70 (51%) female and 68 (49%) male persons. Participants were on average 38 years old (ranging from 22 to 65;  $SD = 12.27$ ), worked for 41.7 hours per week ( $SD = 10.0$ ) and had been employed since 15.1 years ( $SD = 12.56$ ). Most of the participants had a high education level, 104 (75%) held a university degree, 25 (18%) graduated from high school, while only few finished from a vocational (5) or compulsory (4) school.

### 3.2. Material

The material for this study was an online questionnaire with questions about diversity, diversity climate, diversity beliefs, resilience and job demands/resources and their respective outcomes, namely emotional demands, supportive climate, commitment, work engagement, emotional exhaustion and conflict. In the following, the used instruments are described.

The created online questionnaire consisted of 47 items regarding diversity, resilience and variables of the JD-R Model. At the end, socio-demographic items (regarding age, gender, length of employment, educational level, hours worked per week) were included. The survey started with 14 questions about diversity, followed by 28 questions about the constructs of the JD-R model, ranging from emotional demands and supportive climate to conflict and resilience. As for the operationalization of the study variables, job demands were represented by emotional exhaustion and diversity. The outcomes for these constructs were emotional exhaustion and conflict. As for job resources, supportive climate and its outcome work engagement and commitment were included. Personal resources consisted of diversity climate, diversity beliefs and resilience. In the following, the scales used to test the hypotheses are described.

*Emotional demands* were measured using four of the seven items originally proposed by van Veldhoven (Veldhoven, Jonge, Broersen, Kompier, & Meijman, 2002) and used by Bakker, Demerouti, & Schaufeli (2003) within the JD-R Model. An example item is: “Do you face emotionally charged situations in your work?” Cronbach’s  $\alpha$  for the scale was .77. Responses were measured on a scale ranging from 1 (never) to 4 (always).

*Supportive Climate* was measured using four items from a scale previously used by Rogg (2001) and was measured on a scale from 1 (strongly disagree) to 6 (strongly agree). An example item is “Departments cooperate to get the job done effectively and efficiently”. Cronbach’s  $\alpha$  for the scale was .88.

*Work Engagement* was measured using four items from the Utrecht Work Engagement Scale (UWES) developed by Schaufeli, Salanova, González-Romá, & Bakker (2002). The four items were taken from the subscale “vigor”; an example item is “At my

work, I feel bursting with energy”. Responses were measured on a 7-point Likert scale, ranging from 1 (never) to 7 (always). Cronbach’s  $\alpha$  value for the scale was .84.

*Organizational Commitment* was assessed with a 3-item scale by Allen and Meyer (1990), an example item is “This organization has a great deal of personal meaning for me”. Cronbach’s  $\alpha$  for the scale was .71. Answers were given on a scale from 1 (strongly disagree) to 5 (strongly agree).

*Emotional exhaustion* was assessed using items from the Maslach Burnout Inventory – General Survey (Schaufeli, Leiter, Maslach & Jackson, 1996). The scale consisted of four items, such as: “I feel emotionally drained from my work” and answers were given on a Likert scale, ranging from 1 (never) to 7 (always). Cronbach’s  $\alpha$  was .89.

*Resilience* was measured with four items from the resilience scale developed by Wagnild & Young (1993). An example item is “I can get through difficult times because I’ve experienced difficulty before”, responses ranged from 1 (strongly disagree) to 6 (strongly agree). Alpha coefficient for the scale was .83.

For the constructs of diversity, diversity climate and diversity beliefs, scales were created with combinations of commonly used items from the diversity research of the past years.

*Subjective diversity* was measured using a combination of questions originally developed by Harrison, Price, & Bell (1998) and later modified and used by van Dick, van Knippenberg, Hagele, Guillaume, & Brodbeck, (2008). The scale consisted of six items, example items are “How diverse do you think your syndicate group is in general?” and “How similar or different are the members of your syndicate group with respect to their age?” Answers were measured on a Likert scale, ranging from 1 (not at all) to 7 (very much). Cronbach’s  $\alpha$  level for this scale was .81.

*Diversity climate* was assessed with four items used by Pugh, Dietz, Brief, & Wiley (2008), an example is “Where I work, employees are developed advanced without regard to the gender or the racial, religious, or cultural background of the individual”. Responses were measured on a scale ranging from 1 (strongly disagree) to 6 (strongly agree), Cronbach’s  $\alpha$  was .90.

*Diversity beliefs* were measured with four items from Homan et al. (2007), an example item is “Diversity is an asset for teams”. Answers were given on a 6-point Likert scale from 1 ( not at all) to 6 (very) with a Cronbach’s  $\alpha$  value of .90.

### **3.3 Procedure**

The data collection was carried out from the middle of September 2014 to the beginning of November 2014 and the survey was closed on 11<sup>th</sup> of November 2014. The criterion to participate in the study was to be a knowledge worker and not to be self-employed. In the beginning, companies that had been contacted prior to the survey were given the link. After one main contributing company did not cooperate to fill out the survey, personal contacts were used and an additional company were acquired to complete the target of N = 120. On average, participants took 10 minutes and 59 seconds to complete the questionnaire.

### **3.4 Data Analysis**

Before the main data analysis was carried out, exploratory factor analyses (principal component analysis) were performed for the scales that measured subjective diversity, diversity climate and diversity beliefs. Since they were constructed with different items from different scales, it was especially important to test if the items loaded on one factor for each scale used. The main data analysis was then carried out with mean-centred variables.

To test for main effects of job demands on emotional exhaustion and of job resources on work engagement and organizational commitment, hierarchical regression analysis was performed. Variables were entered blockwise. In the first step, age and gender as control variables were added, followed by the respective predictors emotional demands and supportive climate. To test for the mediation effect of resilience on job resources, the widely-used procedure by Baron & Kenny (1986) was followed and three regressions were carried out. In a first step, the dependent variable (work engagement or commitment for the respective hypotheses) was regressed on the independent variable (supportive climate). Second, the mediating variable was regressed on the independent variable; third, the dependent variable was regressed on the independent and the mediating variable (resilience). Mediation occurs as follows: If all regressions are significant, except the one

between the dependent on the independent variable when the mediating variable is included in the equation as well. If the relationship between dependent and independent variable is not significant, full mediation is assumed. A partial mediation occurs, if there is a weaker relationship between dependent and independent variable than is in the first regression analysis. Two mediation analyses were conducted to test the mediating effect of resilience on the relationship between supportive climate and commitment and work engagement, respectively.

To test for the moderator effects of personal resources, stepwise hierarchical regression was conducted. In the first equation, the control variables age and tenure as well as the independent variable (diversity, emotional demands) were included and entered stepwise into the equation. Second, the moderator variable was added (diversity climate, diversity beliefs or resilience). In a third step, the cross-product of the moderator and the independent variable for the respective hypothesis was entered. In total, six hierarchical regression analyses were carried out.

## 4. Results

The first part of the results reports the reliabilities, intercorrelations and descriptive statistics of the scales that have been used. In the second part, the results of the tested hypotheses are presented.

### 4.1. Reliabilities and Intercorrelations

Most of the used instruments showed good reliability, with the exception of two scales. Showing a Cronbach's  $\alpha$  of .59, emotional demands initially did not meet the criteria for an acceptable reliability, which is set at a lower limit of .70 (Field, 2009). After eliminating one item, the scale showed acceptable reliability of .77. Commitment was also reduced, at first showing .59 Cronbach's  $\alpha$  and then .71 after the removal of two items. In the end, the scales ranged between .71 and .91, whereas eight out of ten scales showed reliabilities above .80, which is an indicator for good reliability (Bortz & Döring, 2006). Below, means, standard deviations, Pearson's' product-moment correlation coefficients and Cronbach's  $\alpha$  for all study variables as well as for age and gender are shown (see Table 2). Correlations with supportive climate, diversity climate and subjective diversity were based on N=137, with tenure on N = 134; the remaining correlations are based on N = 138.

**Table 2.** Descriptive statistics and Pearson product-moment correlation coefficients (Cronbach's Alpha depicted across).

|    | Variables            | M     | SD    | 1     | 2     | 3     | 4     | 5      | 6      | 7    | 8     | 9      | 10   | 11   | 12  |
|----|----------------------|-------|-------|-------|-------|-------|-------|--------|--------|------|-------|--------|------|------|-----|
| 1  | Gender               | 1.49  | 0.5   |       |       |       |       |        |        |      |       |        |      |      |     |
| 2  | Age                  | 37.86 | 12.27 | .13   |       |       |       |        |        |      |       |        |      |      |     |
| 3  | Subjective diversity | 3.34  | 1.08  | -.00  | .05   | .81   |       |        |        |      |       |        |      |      |     |
| 4  | Emotional demands    | 2.61  | 0.66  | -.04  | .17   | .08   | .77   |        |        |      |       |        |      |      |     |
| 5  | Supportive climate   | 3.7   | 1.14  | .02   | -.13  | .33** | .05   | .88    |        |      |       |        |      |      |     |
| 6  | Diversity climate    | 4.45  | 1.26  | .14   | -.14  | .46** | .04   | .50**  | .90    |      |       |        |      |      |     |
| 7  | Diversity beliefs    | 5.36  | 0.79  | -.21* | -.08  | .30** | .13   | .27**  | .24**  | .90  |       |        |      |      |     |
| 8  | Resilience           | 5.1   | 0.87  | .20*  | .13   | .12   | .12   | .02    | .11    | .01  | .83   |        |      |      |     |
| 9  | Work engagement      | 4.9   | 1.04  | .07   | .18*  | .28** | .25** | .35**  | .13    | .17  | .36** | .84    |      |      |     |
| 10 | Commitment           | 2.98  | 1.01  | .20*  | .28** | .19*  | .25** | .26**  | .18*   | .07  | .08   | .40**  | .71  |      |     |
| 11 | Exhaustion           | 2.93  | 1.22  | -.04  | -.05  | .00   | .32** | -.29** | -.08   | -.01 | -.09  | -.31** | -.16 | .89  |     |
| 12 | Conflict             | 2.99  | 1.35  | -.07  | .06   | -.00  | .16   | -.44** | -.29** | .03  | -.18* | -.08   | -.11 | .18* | .91 |

Note: Gender (1 = female, 2 = male), \* $p < .05$ , \*\* $p < .01$ .

Diversity showed positive relationships with work engagement ( $r = .28$ ,  $p < .01$ ) and commitment ( $r = .19$ ,  $p < .01$ ), there were no significant correlation with conflict ( $r = -.00$ ). Emotional demands had the highest correlation with exhaustion ( $r = .32$ ,  $p < .01$ ), but also correlated with work engagement ( $r = .25$ ,  $p < .01$ ) and commitment ( $r = .25$ ,  $p < .01$ ). Supportive climate showed significant positive correlation with commitment ( $r = .26$ ,  $p < .01$ ) and work engagement ( $r = .35$ ,  $p < .01$ ), but not with resilience ( $r = .02$ ). Gender was negatively related to diversity beliefs ( $r = -.21$ ,  $p < .01$ ) and positively related to resilience and commitment. This indicates that women had more positive attitudes toward diversity while men showed higher resilience and commitment. Age was positively related to work engagement ( $r = .18$ ,  $p < .05$ ) and commitment ( $r = .28$ ,  $p < .01$ ), suggesting that older employees showed more engagement and commitment at work. The highest correlations were between diversity and diversity climate ( $r = .46$ ,  $p < .01$ ) and supportive climate and diversity climate ( $r = .50$ ,  $p < .01$ ). Diversity beliefs had the highest mean ( $M = 5.36$ ,  $SD = 0.79$ ), followed by resilience ( $M = 5.10$ ,  $SD = 0.87$ ), both scales ranged from 1 to 6. The lowest means were exhaustion ( $M = 2.93$ ,  $SD = 1.22$ ) and conflict ( $M = 2.99$ ,  $SD = 1.35$ ), both scales ranged from 1 to 7.

## **4.2. Hypotheses Testing**

The hypotheses were tested using hierarchical regression analysis. Initially, a graphical analysis of the residual plots was carried out, to test for the assumptions of normal distribution, linearity and homoscedasticity. In addition, the central limit theorem states, that a sample's mean distribution can be considered normally distributed if the sample size exceeds  $N > 30$  (Bortz & Döring, 2006, p.411). To test for multicollinearity, the variance inflation factor and tolerance were used. According to (Field, 2009) and Myers (1990), values for VIF below 10 and above 0.2 for tolerance indicate multicollinearity. For the carried out regression analyses, the values for VIF were all well below 10 and above 0.2 for tolerance.

### **4.2.1. Main Effects (H1)**

The first part of the hypothesis assumed that supportive climate leads to higher commitment among employees. In a first step, age, gender and the tenure were included as

control variables in the hierarchical regression model and contributed significantly to the model,  $R^2 = .118$ ,  $F = 5.748$ ,  $p = .001$ . Specifically, gender influenced commitment in the way, that male employees showed higher commitment than female employees, while age and tenure had no influence. In the second step, supportive climate was added to the regression analysis and explained a significant proportion of the variance,  $\Delta R^2 = .10$ ,  $F = 15.691$ ,  $p < .001$ . As expected, supportive climate ( $\beta = .32$ ,  $p < .001$ ) significantly influenced commitment. Results are displayed in table 3.

**Table 3.** Hierarchical regression analysis for hypothesis 1a (N = 138) commitment

|                      | B    | SE B | $\beta$ |
|----------------------|------|------|---------|
| Step 1               |      |      |         |
| Constant             | -.79 | .43  |         |
| Age                  | -.00 | .02  | -.04    |
| Gender               | .38  | .17  | .19*    |
| Length of Employment | .02  | .02  | .31     |
| Step 2               |      |      |         |
| Constant             | -.78 | .41  |         |
| Age                  | -.01 | .01  | -.07    |
| Gender               | .36  | .16  | .18*    |
| Length of Employment | .03  | .01  | .39*    |
| Supportive climate   | .31  | .08  | .32***  |

Note:  $R^2 = .118^{**}$  ( $p < .01$ ) for Step 1,  $\Delta R^2 = .10^{***}$  for Step 2 ( $p < .001$ ).

As the second part of the hypothesis, supportive climate was also assumed to be positively related to work engagement. As before, age, gender and tenure were control variables in a hierarchical regression analysis. They did not contribute significantly to the model ( $R^2 = .035$ ,  $F = 1.545$ ,  $p = .206$ ). When supportive climate was added, it explained a significant proportion of the criterion variance ( $\Delta R^2 = .150$ ,  $F = 23.482$ ,  $p < .001$ ) and showed a

positive effect on work engagement ( $\beta = .39$ ,  $p < .001$ ), confirming hypothesis 1b. The results are shown in table 4.

**Table 4.** Hierarchical regression analysis for hypothesis 1b (N = 138) work engagement

|                      | B    | SE B | $\beta$ |
|----------------------|------|------|---------|
| Step 1               |      |      |         |
| Constant             | -.49 | .46  |         |
| Age                  | .00  | .02  | .03     |
| Gender               | .16  | .18  | .08     |
| Length of Employment | .01  | .02  | .13     |
| Step 2               |      |      |         |
| Constant             | -.48 | .42  |         |
| Age                  | .00  | .02  | .00     |
| Gender               | .13  | .16  | .06     |
| Length of Employment | .02  | .02  | .23     |
| Supportive climate   | .39  | .08  | .39***  |

Note:  $R^2 = .035$  for Step 1,  $\Delta R^2 = .150^{***}$  for Step 2 ( $p < .001$ ).

Regarding job demands, emotional demands were predicted to be positively related to exhaustion. Once again, age, gender and tenure were the control variables in the first step of the hierarchical regression; they did not contribute significantly to the model,  $R^2 = .002$ ,  $F = 0.096$ ,  $p = .962$ . When in the second step emotional demands were added, they explained a significant proportion of the criterion variance,  $\Delta R^2 = .115$ ,  $F = 16.816$ ,  $p < .001$ . As predicted, emotional demands had a positive effect on exhaustion ( $\beta = .34$ ,  $p < .001$ ), as hypothesis 1c suggested. The results are displayed in table 5.

**Table 5.** Hierarchical regression analysis for hypothesis 1c (N = 138) emotional demands

|                      | B    | SE B | $\beta$ |
|----------------------|------|------|---------|
| Step 1               |      |      |         |
| Constant             | .09  | .46  |         |
| Age                  | .00  | .02  | .01     |
| Gender               | -.05 | .18  | -.03    |
| Length of employment | -.00 | .02  | -.05    |
| Step 2               |      |      |         |
| Constant             | .18  | .44  |         |
| Age                  | -.00 | .02  | -.04    |
| Gender               | -.02 | .17  | -.01    |
| Length of employment | -.01 | .02  | -.06    |
| Emotional demands    | .34  | .08  | .34***  |

Note:  $R^2 = .002$  for Step 1,  $\Delta R^2 = .115^{***}$  for Step 2 ( $p < .001$ ).

The results show that hypothesis 1 was fully supported, with supportive climate predicting higher commitment and work engagement as well as emotional demands leading to higher levels of exhaustion.

#### 4.2.2. Moderation Effects of Diversity Climate and Diversity Beliefs (H2)

The second hypothesis assumed that diversity climate and diversity beliefs act as a moderator on the relationship between diversity and the employee outcomes work engagement, commitment and conflict. To test this hypothesis, a hierarchical regression analysis was carried out for each part of the hypothesis. In a first step, the control variables age and length of employment, followed by the centred predictor were stepwise entered into the equation. Gender previously showed no correlations with subjective diversity and was therefore not included. Next, the moderator variable was entered and in a third step, the

centred cross product of the predictor and moderator were added. The dependent variables were work engagement, commitment and conflict. For each dependent variable, the two moderators diversity climate and diversity believes were tested. In total, six regression analyses were carried out. The results are displayed in the tables below.

**Table 6.** Moderation analysis for hypothesis 2ab (N = 138) work engagement

|                                          | Step 1   |      |         | Step 2 |      |         | Step 3 |      |         |
|------------------------------------------|----------|------|---------|--------|------|---------|--------|------|---------|
|                                          | B        | SE B | $\beta$ | B      | SE B | $\beta$ | B      | SE B | $\beta$ |
| Subjective diversity                     | .29      | .08  | .29**   | .29    | .09  | .29**   | .29    | .10  | .29**   |
| Diversity climate                        |          |      |         | .00    | .09  | .00     | -.01   | .10  | -.01    |
| Subjective diversity X diversity climate |          |      |         |        |      |         | -.02   | .09  | -.02    |
| R <sup>2</sup>                           | .08      |      |         | .08    |      |         | .08    |      |         |
| F for $\Delta R^2$                       | 11.840** |      |         | .000   |      |         | 0.031  |      |         |
| Subjective diversity                     | .29      | .08  | .29**   | .26    | .09  | .26**   | .28    | .09  | .29**   |
| Diversity beliefs                        |          |      |         | .08    | .09  | .08     | .03    | .11  | .03     |
| Subjective diversity X diversity beliefs |          |      |         |        |      |         | -.08   | .10  | -.08    |
| R <sup>2</sup>                           | .08      |      |         | .09    |      |         | .09    |      |         |
| F for $\Delta R^2$                       | 11.840** |      |         | .763   |      |         | .585   |      |         |

Note: \*p < .05, \*\*p < .01, \*\*\*p < .001.

As table 6 shows, diversity climate did not significantly moderate the relationship between diversity and work engagement ( $\beta = -.02$ ,  $p = .674$ ), neither did diversity belief act as a moderator ( $\beta = -.08$ ,  $p = .446$ ). However, subjective diversity was positively related to work engagement for both analyses ( $\beta = .29$ ,  $p = .003$ ). The next part of the hypothesis assumed diversity climate and diversity beliefs to moderate the relationship between diversity and commitment; results are displayed in the table below.

**Table 7.** Moderation analysis for hypothesis 2cd (N = 138) commitment

|                                          | Step 1 |          |         | Step 2 |        |         | Step 3 |        |         | Step 4 |       |         |
|------------------------------------------|--------|----------|---------|--------|--------|---------|--------|--------|---------|--------|-------|---------|
|                                          | B      | SE B     | $\beta$ | B      | SE B   | $\beta$ | B      | SE B   | $\beta$ | B      | SE B  | $\beta$ |
| Tenure                                   | .02    | .01      | .29**   | .02    | .01    | .28**   | .03    | .01    | .32***  | .02    | .01   | .33***  |
| Subjective diversity                     |        |          |         | .20    | .08    | .20*    | .10    | .09    | .11     | .12    | .09   | .12     |
| Diversity climate                        |        |          |         |        |        |         | .20    | .09    | .21*    | .16    | .10   | .16     |
| Subjective diversity X diversity climate |        |          |         |        |        |         |        |        |         | -.09   | .08   | -.10    |
| R <sup>2</sup>                           |        | .081     |         |        | .122   |         |        | .154   |         |        | .162  |         |
| F for $\Delta R^2$                       |        | 11.611** |         |        | 6.003* |         |        | 4.871* |         |        | 1.285 |         |
| Tenure                                   | .02    | .01      | .29**   | .02    | .01    | .28**   | .02    | .01    | .28**   | .02    | .01   | .28**   |
| Subjective diversity                     |        |          |         | .20    | .08    | .20*    | .19    | .09    | .19*    | .19    | .09   | .19*    |
| Diversity beliefs                        |        |          |         |        |        |         | .04    | .09    | .04     | .04    | .11   | .05     |
| Subjective diversity X diversity beliefs |        |          |         |        |        |         |        |        |         | .02    | .10   | .02     |
| R <sup>2</sup>                           |        | .081     |         |        | .122   |         |        | .123   |         |        | .123  |         |
| F for $\Delta R^2$                       |        | 11.611** |         |        | 6.003* |         |        | 0.156  |         |        | 0.023 |         |

Note: \*p < .05, \*\*p < .01, \*\*\*p < .001.

As table 7 displays, diversity climate did not significantly moderate between diversity and commitment ( $\beta = -.10$ ,  $p = .259$ ), neither did diversity beliefs ( $\beta = .02$ ,  $p = .879$ ). Apart from these non-significant results, in the second model, subjective diversity was leading to higher commitment ( $\beta = .19$ ,  $p = .047$ ). The control variable tenure was positively related to commitment in the first ( $\beta = .33$ ,  $p = .001$ ) and second model ( $\beta = .28$ ,  $p = .001$ ), indicating that individual who had been employed longer were more committed to their organization.

**Table 8.** Moderation analysis for hypothesis 2ef (N = 138) conflict

|                                          | Step 1 |          |         | Step 2 |       |         |
|------------------------------------------|--------|----------|---------|--------|-------|---------|
|                                          | B      | SE B     | $\beta$ | B      | SE B  | $\beta$ |
| Diversity climate                        | -.29   | .08      | -.29**  | -.26   | .09   | -.27**  |
| Subjective diversity X diversity climate |        |          |         | .06    | .09   | .07     |
| R <sup>2</sup>                           |        | .08      |         |        | .09   |         |
| F for $\Delta R^2$                       |        | 12.042** |         |        | .575  |         |
| Diversity beliefs                        | .04    | .09      | .04     | .05    | .11   | .05     |
| Subjective diversity X diversity beliefs |        |          |         | .02    | .10   | .02     |
| R <sup>2</sup>                           |        | .001     |         |        | .002  |         |
| F for $\Delta R^2$                       |        | 0.180    |         |        | 0.031 |         |

Note: \*\*p < .01

The last part of the hypothesis proposed the moderation of diversity climate and diversity beliefs on the relationship between diversity and conflict, but there was no significant main effect of diversity on conflict (see table 8). Hence, the variables were excluded from the model. The only significant relationship was that diversity climate led to less conflict ( $\beta = -.27$ ,  $p = .001$ ). In conclusion, hypothesis 2 could not be confirmed. However, the analyses showed main effects of diversity on work engagement and commitment.

### 4.2.3. Mediation Effect of Resilience (H3)

Resilience was suggested as a mediator variable between supportive climate and commitment as well as between supportive climate and work engagement. First, we look at the mediation between supportive climate and commitment. When commitment was regressed on supportive climate, the regression coefficient was significant ( $\beta = .26$ ,  $p = .002$ ). When resilience was regressed on supportive climate, there was no significant relationship ( $\beta = .02$ ,  $p = .824$ ). Similarly, when commitment was regressed on both supportive climate and resilience, only supportive climate showed a significant relation ( $\beta = .26$ ,  $p = .002$ ). This shows that there was no mediation effect of resilience between supportive climate and commitment, as table 9 shows.

**Table 9.** Mediation analysis for hypothesis 3a (N = 138)

|                    | Commitment $\beta$ |        |
|--------------------|--------------------|--------|
|                    | Step 1             | Step 2 |
| Supportive climate | .26**              | .26**  |
| Resilience         |                    | .06    |
| $\Delta R^2$       |                    | .073   |

Note: \*\* $p < .01$ .

For the second part of the hypothesis, work engagement was regressed on supportive climate and showed a significant relationship ( $\beta = .35$ ,  $p < .001$ ). As shown before, there was no significant relationship between supportive climate and resilience ( $\beta = .02$ ,  $p = .824$ ). When regressed together on work engagement, resilience ( $\beta = .35$ ,  $p < .001$ ) and supportive climate ( $\beta = .35$ ,  $p < .001$ ) both showed a significant relationship. This shows that there was also no mediation effect of resilience on supportive climate and work

engagement (table 10). In conclusion, hypothesis 3 could not be confirmed. However, all connections were equal ( $\beta = .35$ ,  $p < .001$ ), showing a tendency for mediation.

**Table 10.** Mediation analysis for hypothesis 3b (N = 138)

|                    | Work engagement $\beta$ |        |
|--------------------|-------------------------|--------|
|                    | Step 1                  | Step 2 |
| Supportive climate | .35***                  | .35*** |
| Resilience         |                         | .35*** |
| $\Delta R^2$       |                         | .244   |

Note: \*\*\* $p < .001$ .

#### 4.2.4. Moderation Effects of Resilience (H4)

The fourth hypothesis suggested on the one hand that resilience acts as a moderator on the relationship between emotional demands and emotional exhaustion. On the other hand, resilience was assumed to act as a moderator between diversity and work engagement. As before, hierarchical regression was used to test these hypotheses. First, the control variables age and tenure were entered stepwise into the model, followed by the respective centred predictor variable (emotional demands and diversity). Second, the moderator variable was entered and in a third step, the centred cross product of the predictor and the moderator were added. The results are displayed below in table 11.

**Table 11.** Moderation analysis for hypothesis 4a (N = 138)

|                                | Step 1 |           |         | Step 2 |       |         | Step 3 |        |         |
|--------------------------------|--------|-----------|---------|--------|-------|---------|--------|--------|---------|
|                                | B      | SE B      | $\beta$ | B      | SE B  | $\beta$ | B      | SE B   | $\beta$ |
| Emotional demands              | .33    | .08       | .33***  | .34    | .08   | .34***  | .32    | .08    | .32***  |
| Resilience                     |        |           |         | -.13   | .08   | -.13    | -.16   | .08    | -.17*   |
| Emotional demands X resilience |        |           |         |        |       |         | -.19   | .09    | -.18*   |
| $R^2$                          |        | .109      |         |        | .127  |         |        | .139   |         |
| F for $\Delta R^2$             |        | 16.110*** |         |        | 2.675 |         |        | 4.936* |         |

Note: \* $p < .05$ , \*\*\* $p < .001$ .

In accordance with hypothesis 4a, emotional demands led to exhaustion ( $\beta = .32, p < .001$ ) and resilience moderated this relationship ( $\beta = -.18, p = .028$ ). As figure 2 shows, there was almost no difference in the levels of exhaustion for participants with low emotional demands, whether they had high or low levels of resilience. However, the group with high emotional demands and low resilience showed significantly higher levels of exhaustion, whereas the group with high resilience was less affected by the emotional demands. This shows that resilience buffers the effect of emotional demands on exhaustion, hence acting as a moderator on this relationship.

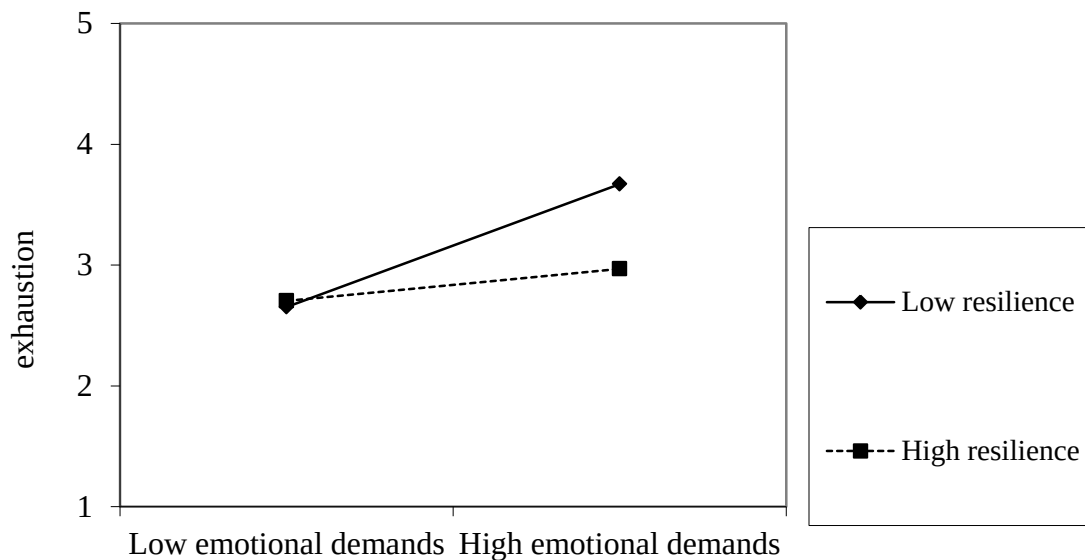


**Figure 2.** Moderation pattern for hypothesis 4a

The second part of the hypothesis assumed resilience to moderate the relationship between subjective diversity and work engagement. As table 12 shows, diversity led to higher work engagement ( $\beta = .29, p < .001$ ) and resilience moderated this relationship ( $\beta = -.24, p < .01$ ).

**Table 12.** Moderation analysis for hypothesis 4b (N =138)

|                                      | Step 1   |             |          | Step 2   |             |          | Step 3   |             |          |
|--------------------------------------|----------|-------------|----------|----------|-------------|----------|----------|-------------|----------|
|                                      | <b>B</b> | <b>SE B</b> | <b>β</b> | <b>B</b> | <b>SE B</b> | <b>β</b> | <b>B</b> | <b>SE B</b> | <b>β</b> |
| Subjective diversity                 | .29      | .08         | .29***   | .24      | .08         | .25**    | .29      | .08         | .29***   |
| Resilience                           |          |             |          | .31      | .08         | .32***   | .29      | .08         | .29***   |
| Subjective diversity X<br>resilience |          |             |          |          |             |          | -<br>.27 | .09         | -.24**   |
| R <sup>2</sup>                       |          | .083        |          |          | .181        |          |          | .236        |          |
| F for ΔR <sup>2</sup>                |          | 11.840***   |          |          | 15.505**    |          |          | 9.294**     |          |

Note: \*\*p < .01, \*\*\*p < .001.

Figure 3 illustrates the results of the moderation. It shows that participants with low levels of resilience that worked in an environment with low diversity were the least engaged at work. People that demonstrated high levels of resilience had high work engagement independent of the diversity level of their work environment. Additionally, if diversity was high, work engagement was the same level, regardless of resilience. This shows that resilience compensates the lower level of work engagement that people in workplaces with lower diversity had, hence moderating the relationship between diversity and work engagement.

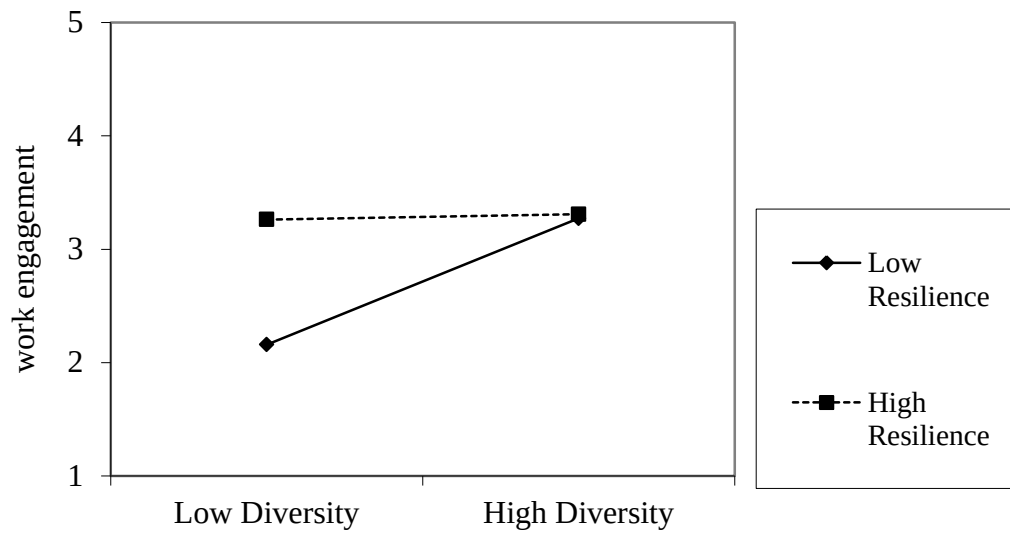


**Figure 3.** Moderation pattern for hypothesis 4b

Hypothesis 4 tested for the moderation effects of resilience: The first part of the hypothesis assumed that resilience buffers the effect of emotional demands on emotional exhaustion, which could be confirmed. In the second part, resilience was demonstrated to influence the effect of diversity on work engagement, compensating for the lower work engagement of individuals that worked in a less diverse work environment. In conclusion, hypothesis 4 was fully supported.

#### 4.2.5. Research Model and supported Hypotheses

With all hypotheses tested, figure 4 displays the research model where only the supported hypotheses are depicted.

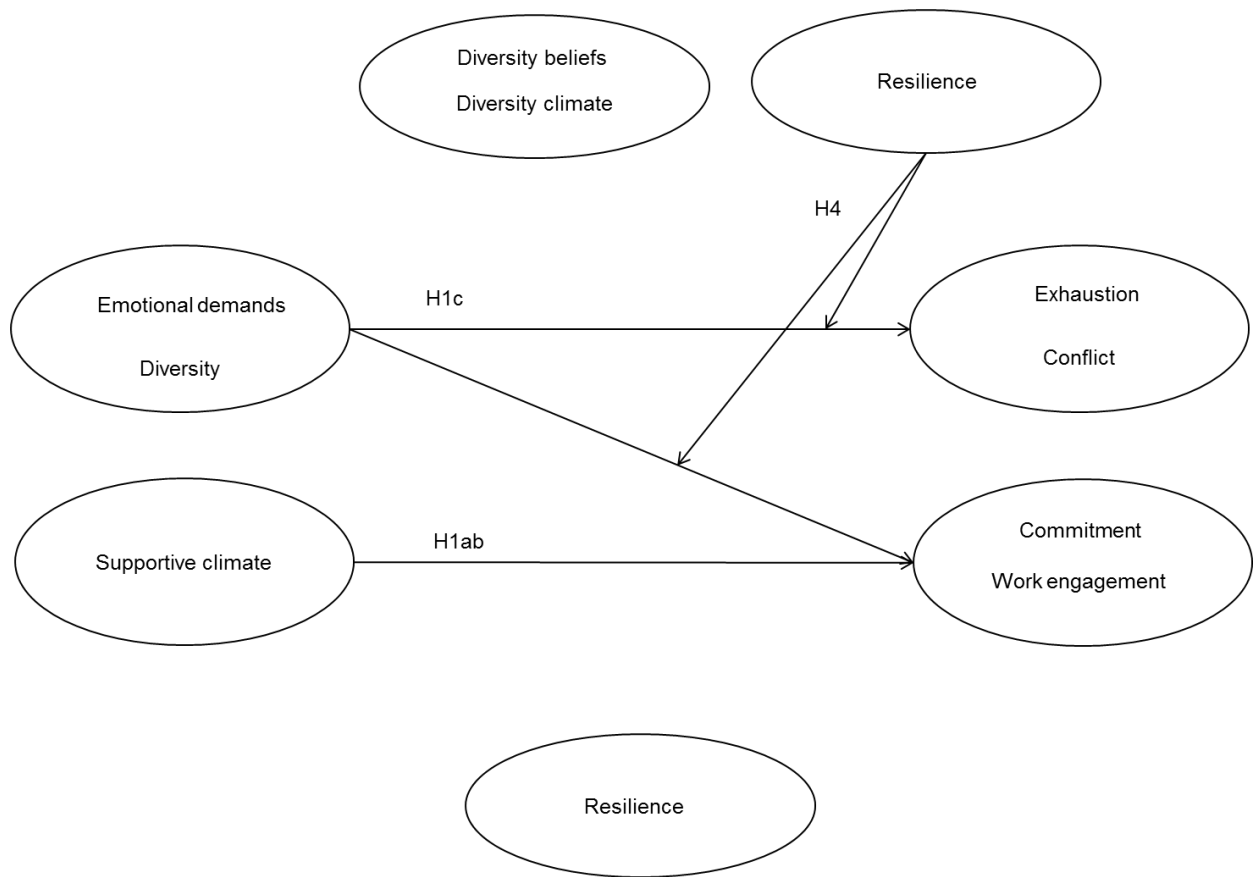


**Figure 4.** Research model with supported hypotheses.

Full support was found for hypothesis 1, describing the main effects of supportive climate on commitment and work engagement as well as between emotional demands and exhaustion. Also full support was found for hypothesis 4, stating that resilience acted as a moderator on the relationship between emotional demands and exhaustion as well as between diversity and work engagement. In addition, diversity was positively related to commitment and work engagement.

## 5. Discussion

### 5.1. Summary of Results

The purpose of this diploma thesis was to investigate the role of diversity and resilience as job and personal resources as well as their effects on the employee outcome variables emotional exhaustion, conflict, commitment and work engagement. The JD-R model was used as the theoretical framework that describes the effects of job demands and resources on employee outcomes (Bakker & Demerouti, 2007; Demerouti et al., 2001). Central for this study was the extension of the JD-R model with personal resources as proposed by Xanthopoulou et al. (2007), suggesting that personal resources act as moderators and mediators within the JD-R model, which has been confirmed in various studies (Llorens et al., 2007; Luthans et al., 2008; Xanthopoulou et al., 2007, 2009). The novelty of this thesis is the integration of diversity as well as diversity beliefs and diversity climate into the JD-R model. Previously, various studies could provide evidence that diversity may influence employee variables that are also used in the JD-R model like performance and commitment (Findler et al., 2007; Gonzalez & DeNisi, 2009; Herring, 2009; Miller & Triana, 2009). While these effects were positive, diversity may also lead to conflict (Pelled et al., 1999; Vodosek, 2007), which has been proposed as an outcome of diversity as a job demand. Influencing these effects are diversity climate and diversity beliefs (Homan et al., 2007; van Dick et al., 2008; van Knippenberg & Schippers, 2007), which have been demonstrated to moderate the effects of diversity and are proposed as personal resources within the JD-R model. Hence, the distinct idea of this thesis was to include diversity along with diversity beliefs and diversity climate into the JD-R model. Therefore, a cross-sectional online study was conducted with a final sample size of 138 participants.

The findings of the study can be segmented into three parts. Firstly, the assumed main effects of job demands and job resources within the JD-R model could be confirmed. Supportive climate was identified to increase organizational commitment as well as work engagement, which is in accordance with Luthans et al. (2008) and Xanthopoulou et al. (2007). Furthermore, emotional demands significantly led to higher emotional exhaustion.

These results were also evident in previous studies (Bakker & Demerouti, 2007; Schaufeli & Bakker, 2004; Xanthopoulou et al., 2007). In conclusion, hypothesis 1 was fully supported, providing the basis for the subsequent results of the study.

Secondly, the study focused on the role of resilience as a personal resource. On the one hand, resilience was hypothesized to act as a mediator between job resources and employee outcomes. On the other hand, resilience was assumed to act as a moderator between job demands and employee outcomes. Results showed no mediation effect for resilience, neither between supportive climate and commitment, nor between supportive climate and work engagement. These results differed from previous studies that found mediating effects of personal resources (Llorens et al., 2007; Fred Luthans et al., 2008; Xanthopoulou et al., 2007, 2009). A possible explanation may be the homogeneous nature of the sample as well as the high levels of resilience and work engagement. First off, the sample showed high levels of education, with 75.4% holding a university degree. Second, the companies that took part in the survey are in rather specialist industries which occupy well-trained employees. A high level of education and good training levels of employee can be associated with greater knowledge about health, higher enthusiasm for the work they do and more social-emotional skills which in turn might have led to higher levels of resilience and work engagement. These high levels of resilience and work engagement as well as their strong relationship may be the reason the mediation effect was not significant. However, in the test for mediation between supportive climate and work engagement, all regressions were significant. There was equal connection between supportive climate and work engagement as well as between resilience and work engagement ( $\beta = .35$ ,  $p < .001$ ), showing a tendency for a mediation.

With respect to the moderator role of resilience, the results were significant and showed that resilience buffered the negative effect of high emotional demands on emotional exhaustion. When emotional demands were low, individuals had almost the same level of exhaustion, whether they had low or high levels of resilience. However, when emotional demands were high, resilience weakened their negative effect on exhaustion. In other words, participants with low resilience were more affected by high emotional demands and were consequently more exhausted than participants with high levels of resilience.

Although previous research did not include resilience as a single moderating factor within the JD-R model, there is evidence that might suggest such a role. Xanthopoulou et al. (2007) suggested that personal resources moderate the impact of emotional demands on exhaustion, but could not find a significant interaction. However, the authors mentioned previous findings that have supported the moderator role of personal resources in the relationship between adverse working conditions and wellbeing (Mäkikangas & Kinnunen, 2003; Van Yperen & Snijders, 2000). Although the authors did not include resilience as a personal resource, they used the related concepts of organizational-based self-esteem, self-efficacy and optimism in their study. They further proposed that their study variables might have been subject to range restrictions, due to the homogenous nature of their sample that consisted of highly-educated employees. In light of this, it is worth mentioning that even in this highly educated sample of engaged employees, emotional demands led to exhaustion and resilience moderated the effect as a single factor and not as part of a higher-order construct such as PsyCap.

Generally the role of personal resources is manifold, as Schaufeli & Taris (2014) described in their critical review of the JD-R model: They can be “integrated as mediators, moderators, “third variables,” antecedents of job demands and job resources, or as any combination of these” (p. 57). On the topic of moderation by personal resources, the authors state that “the definition of personal resources implies that they may buffer negative effects of job demands on burnout and exacerbate positive effects of job resources on engagement” (Schaufeli & Taris, 2014). The moderation results from this study confirm these two processes, since resilience buffered the negative effects of emotional demands as well as compensated for lower work engagement amongst a low diversity environment.

The authors conclude, that there is no single best way to include personal resources and that the specific explanatory framework of each study using the JD-R model determines how they should be integrated into the model (Schaufeli & Taris, 2014). Hence, this study reinforces the role of personal resources like resilience as a moderator on the effects of job demands on exhaustion.

Additionally, resilience significantly moderated the effect of diversity on work engagement. Diversity was supposed either as a challenge or hindrance stressor, leading to

higher or lower work engagement and resilience was assumed to moderate this relationship. The main effect showed that high diversity was associated with higher work engagement and low diversity was associated with lower work engagement, if resilience was also low. However, if resilience was high, work engagement was almost the same, regardless of high or low diversity levels. Hence, resilience buffered the negative effect of low diversity on work engagement. These findings corroborate the resourcefulness of resilience as a buffer on negative effects in the workplace as described from various perspective in the literature (Coutu, 2002; Jackson et al., 2007; Luthans et al., 2004; Luthans, 2002; Masten, 2001; Youssef & Luthans, 2007) and confirm its moderating role as a personal resource as described by Schaufeli & Taris (2014).

Finally, the main effects of diversity on employee outcomes as well as the role of diversity climate and diversity beliefs as moderators on these relationships were examined. Since previous studies have shown the effect of pro-diversity climate and pro-diversity beliefs (Gonzalez & DeNisi, 2009; Homan et al., 2007; Pugh et al., 2008; van Dick et al., 2008; van Knippenberg & Schippers, 2007), it was hypothesized that these variables would have a positive effect on employee outcomes. However, none of the proposed interactions reached significance, indicating no effect of diversity climate and diversity beliefs on the relationship between diversity and employee outcomes. A general reason for this may be the homogenous nature of the sample and the highly educated participants that may have led to range restrictions, as mentioned before.

As for the moderator hypothesis between diversity and work engagement, the already high levels of work engagement may have made it difficult to detect an additional interaction effect on the strong relationship between diversity and work engagement. Regarding the moderator effect of diversity climate/beliefs on the relationship between diversity and conflict, there was no significant main effect as well as no interaction. In general, moderation effects are difficult to detect and pose statistical challenge when a non-experimental design is chosen, as (McClelland & Judd, 1993) described. Although none of the interactions have been significant, there is still some information to take away from this.

First, diversity led to higher work engagement and commitment, indicating that diversity may be a challenge stressor, as proposed before. Second, there was no connection

between diversity and conflict, on the contrary diversity climate led to less conflict. Also worth mentioning is that diversity had no negative correlations with any study variables and correlated positively with supportive climate, work engagement and commitment of employees. Altogether, diversity has been shown to be applicable to the JD-R model and that it may well play the role of a demand in the sense of a challenge-hindrance stressor (Lepine et al., 2005; Podsakoff et al., 2007).

## **5.2. Strength and Limitations**

The strength of this study lies in its integration of the concept of diversity into the JD-R model. Our societies and in turn our organizations will become increasingly diverse (Putnam, 2007) and to describe and handle the modern work environment will mean to deal with this diversity. Apart from that, diversity has been shown to affect similar outcomes as the JD-R model, which makes it a viable addition to be considered when using the model as a research or HR management instrument.

To account for the ways in which these outcomes can be affected, diversity beliefs and diversity climate have been included as moderators. This addition is in accordance with the role of personal resources, which influence the main effects of job characteristics as well as how job characteristics are perceived (Schaufeli & Taris, 2014). Adding these variables, the importance of the perception of diversity as a positive or negative factor is stressed. Altogether, well-researched parts of the JD-R model are complemented by a new perspective and connections between “old” and “new” variables have been shown. By doing so, the case for diversity as a functional component within the JD-R model as research and HR management tool of the modern work environment has been made. This is the first study that incorporates diversity, diversity climate and diversity beliefs into the JD-R model and therefore contributes to the range of possible applications of the JD-R model, which “is non-limitative in terms of the study concepts” (Schaufeli & Taris, 2014, p. 59).

The present study also has limitations that need to be acknowledged. A main limitation was the homogenous sample, which may have resulted in range restrictions towards the upper end of the study variables. A wider range of companies from different industries as well as further division by company size, profit/non-profit sector or for

example internationality of the company would have been beneficial for the sample distribution. Additionally, to ask for the presence of a diversity management in the company might have been informative, too.

Another limitation was the cross-sectional design of the study, which does not allow interpreting causality, e.g. that supportive climate caused work engagement. However, similar research also used cross-sectional design to test for moderating/mediating effects in the JD-R model (Luthans et al., 2008; Xanthopoulou et al., 2007) and is being used to research the JD-R model all over the world (Schaufeli & Taris, 2014). Nevertheless, a direction of effects cannot be established without temporal precedence and experimental manipulations. Interesting would be a longitudinal study that measures the effects of diversity for a company before and after the introduction of diversity management practices. In that way, inferences about the effects of HR practices that aim at improving diversity climate and general awareness of its benefits could be made. A limitation regarding the measurement of diversity is that only subjectively perceived diversity data has been collected. As described before, diversity can be conceptualized in a number of ways. Depending on which route is pursued, the ways of measuring diversity is different and can entail subjective or objective instruments.

This study collected subjective diversity data based on self-report measures, due to reasons of anonymity of the participants. The measurement of objective diversity (e.g. separation and variety, see 1.1.1. Diversity: Definition, Conceptualization) would have required for participants to be attributable to their respective work team. This was not achievable with anonymised data and thus not possible within the limitations of the research for this diploma thesis.

Objective measurement would have avoided common method variance as well as allowed for more insight regarding the effects of diversity. However, given the personal nature of constructs like personal resources, diversity beliefs and work engagement, it can be argued that they are nearly impossible to measure in any other way (Xanthopoulou et al., 2007). Lastly, social desirability is a common problem of self-report instruments and especially the constructs of resilience and pro-diversity beliefs can be seen as desirable

within our society. However, common instruments have been used and the problem posed by social-desirability is inevitable to some extent.

### **5.3. Contribution and Implications for Future Research**

Increasing diversity in our societies and the challenges as well as opportunities that arise from this diversity are an important feature of the modern workplace now and in the years to come (Putnam, 2007). Although one might argue that in Austria and Germany right now, diversity is not as present as the advance of numerous diversity management initiatives suggest, diversity and its effects has many faces that need to be acknowledged. Another important factor within organizations is the mental health and in consequence the resilience of their employees. As an everyday factor for human interaction in the workplace, resilience has been proposed to be given more attention as a developable capability to foster in individuals.

This study has on the one hand replicated previous findings regarding the effects of resilience as a personal resource in the JD-R model. On the other hand, the main contribution of this diploma thesis is the testing of previously conceived assumptions about diversity within the JD-R model by Bakker & Demerouti (2007), including diversity beliefs and diversity climate as moderators. Diversity was found to be positively related to work engagement and commitment of employees and a positive diversity climate led to less conflict. Furthermore, resilience has been shown to buffer the effect of emotional demands on exhaustion, as well as compensate for lower diversity that was associated with lower work engagement. It should be emphasized that this study served as the first integration of diversity into the JD-R model and further research with more elaborate measurements and study design is needed.

Drawing from the findings of this diploma thesis, implications for further research are made. The distinction of diversity as a demand or a resource needs to be investigated further, as perceptions may alter the effects of subjectively perceived diversity. Future research should pay close attention to the possible positive or negative perception of diversity in the JD-R model, depending on the population that the sample is drawn from. Hence, objective measures of diversity and the segmentation into work teams that range

from low to high diversity may further contribute to the knowledge on the effects of diversity as a demand or as a resource. In addition, it might also be helpful to distinguish between diversity climate and diversity beliefs as job and personal resource, respectively. While diversity beliefs may be rather individual, diversity climate may play a role as a job resource when dealing with diversity and conflict. Taken these distinctions into account, diversity as a functional aspect for work teams rather than an attitude of individuals towards the theoretical concept diversity may be worth further exploration. Hence, pro-diversity beliefs that stress the functional role instead of the non-discriminating role may add to the predictive value within the JD-R model.

Resilience has been shown to act as a buffer on the health impairment process, which has been lacking in previous research, although the connection has been suggested (Schaufeli & Taris, 2014; Xanthopoulou et al., 2007). In consequence, resilience as a buffer resource should be further included in future research about the health impairment process. Additionally, further research into the connections between diversity, diversity climate and resilience might produce valuable information about how resilient people behave in diverse versus non-diverse groups. These implications could possibly contribute to a further integration of the underlying factor of diversity into the JD-R model. In conclusion, there is evidence for the positive effects of diversity and resilience on employees' engagement and commitment and the findings emphasize their importance. This study serves as an encouragement to investigate resilience and diversity as sources for healthy, engaged and committed individuals that work together in an increasingly diverse and challenging world.

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## Appendix A – Online Questionnaire



Sehr geehrte Damen und Herren!

Es freut mich sehr, dass Sie an der Befragung für meine Diplomarbeit teilnehmen.

Auf den folgenden Seiten finden Sie Fragen und Aussagen zu Ihrer Arbeit mit speziellem Fokus auf **Diversität** und **Resilienz**. Sie werden nach Einschätzungen zu Ihrem **Arbeitsumfeld** und Ihrer **Befindlichkeit** befragt. Sie sollen diese Aussagen anhand vorgegebener Antwortalternativen beurteilen. Kreuzen Sie dazu bitte für jede Frage die Antwort an, die am ehesten auf Sie oder Ihre Arbeit zutrifft. Selbstverständlich werden Ihre Angaben **streng vertraulich behandelt**.

Bitte beachten Sie, dass ich Ihren Fragebogen nur dann verwerten kann, wenn Sie **alle Fragen beantworten**. Des Weiteren möchte ich Sie bitten, die Fragen möglichst **spontan** zu beantworten.

Der Fragebogen dauert ca. 15 Minuten.

Wenn Sie an den Ergebnissen dieser Studie interessiert sind, finden Sie auf der letzten Seite eine Option Ihre Kontaktdaten anzuführen. Ich werde Ihnen in diesem Fall eine Zusammenfassung zukommen lassen.

Vielen Dank für Ihre Teilnahme,

Jakob Ritzkat





|                                                                             |                          |                          |                          |                          |                          |                          |
|-----------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Abteilungen kommunizieren wichtige Informationen untereinander rechtzeitig. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Mitarbeiter wissen, dass sie geschätzt werden.                              | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Emotionale Anforderungen

|                                                                                   | nie                      |                          |                          | immer                    |
|-----------------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Bringt Sie ihre Arbeit in emotionale Situationen?                                 | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ist Ihre Arbeit emotional fordernd?                                               | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Werden Sie eingeschüchtert durch die Menschen, denen Sie bei der Arbeit begegnen? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Arbeitsengagement

|                                                                          | Nie                      | Fast nie                 | Ab und zu                | Regelmäßig               | Häufig                   | Sehr häufig              | Immer                    |
|--------------------------------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Bei meiner Arbeit fühle ich mich energiegeladen.                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bei meiner Arbeit fühle ich mich stark und energisch.                    | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Ich bin bei meiner Arbeit mental sehr belastbar.                         | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Bei meiner Arbeit bin ich ausdauernd, sogar wenn Dinge nicht gut laufen. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

## Emotionale Bindung

|                                                | trifft nicht zu          | trifft eher nicht zu     | teil teils               | trifft eher zu           | trifft zu                |
|------------------------------------------------|--------------------------|--------------------------|--------------------------|--------------------------|--------------------------|
| Diese Firma bedeutet mir persönlich sehr viel. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |





## Angaben zu Ihrer Person

Alter

\_\_\_\_\_ Jahre

Geschlecht

☐ weiblich

☐ männlich

Höchste abgeschlossene Schulbildung

☐ Pflichtschule

☐ Lehrabschluss

☐ Fachschule

☐ Matura

☐ Universität/Fachhochschule

Wie lange sind Sie bereits berufstätig?

\_\_\_\_\_ Jahr(e)

Wie viele **Stunden** arbeiten Sie durchschnittlich **pro Woche**

(inkl. Mehrarbeit/Überstunden)?  
Woche

\_\_\_\_\_ Stunden /

Vielen Dank für Ihre Teilnahme an der Befragung!

Fall Sie Fragen haben, können Sie mich unter [diversityresilienz@gmail.com](mailto:diversityresilienz@gmail.com) kontaktieren.

Falls Sie an den Ergebnissen dieser Studie interessiert sind, können Sie hier Ihre E-Mail Adresse angeben, damit ich Ihnen die Ergebnisse zukommen lassen kann.

E-Mail Adresse: \_\_\_\_\_

## Curriculum vitae

### AUSBILDUNG

|                   |                                                                |
|-------------------|----------------------------------------------------------------|
| 2007 - 2013       | Studium der Psychologie an der Universität Wien                |
| 2011 Januar – Mai | Joint Study Program University of Illinois at Urbana-Champaign |
| 2007              | Zivildienst in einer heilpädagogischen Tagesstätte             |
| 1996-2006         | Besuch des Oskar-von-Miller-Gymnasium in München               |
| 2003-2004         | Auslandsaufenthalt in Wellington; England,                     |

### BERUFLICHE PRAXIS

|             |                                                                                                       |
|-------------|-------------------------------------------------------------------------------------------------------|
| 2013 -      | Trainer für IFS – Institut für Studentenkurse                                                         |
| 2012 -      | Coach/Trainer im Verein StudentCoaching e.V.                                                          |
| 2011 - 2012 | Personal Bereichsleiter bei „icons – consulting by students“ ;                                        |
| 2010        | Vier monatiges Praktikum bei der BMW AG München in der Qualitätsabteilung zum Thema Change Management |
| 2009-2010   | Praktikant und später Mitarbeiter bei Herrn Dr. Bardia Monshi (Institut für Vitalpsychologie)         |
| 2008- 2009  | Wissenschaftlicher Mitarbeiter bei Mag. Dr. Michael Benesch (Benesch&Mittermayer GmbH )               |

**Eidesstattliche Erklärung**

Ich versichere, dass ich die Diplomarbeit ohne fremde Hilfe und ohne Benutzung anderer als der angegebenen Quellen angefertigt habe, und dass die Arbeit in gleicher oder ähnlicher Form noch keiner anderen Prüfungsbehörde vorgelegen hat. Alle Ausführungen der Arbeit, die wörtlich oder sinngemäß übernommen wurden, sind als solche gekennzeichnet.

Wien, den 4.04.2014

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(Jakob Ritzkat)