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**THE NEGATIVE ASPECTS OF FLOW:
EXAMINING RELATIONSHIPS BETWEEN FLOW AND
UNETHICAL BEHAVIOR**

DOCTORAL DISSERTATION

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NEGATIVNI VIDIKI ZANOSA: RAZISKOVANJE RAZMERIJ MED ZANOSOM IN NEETIČNIM VEDENJEM

POVZETEK

Zanos razumemo kot pozitiven pojav, ki ima številne pozitivne, organizacijsko ustrezne posledice (Debus, Sonnentag, Deutsch, & Nussbeck, 2014). Vendar pa je že sam Csikszentmihalyi (1991), ustanovitelj teorije zanosa, izpostavil »nagnjenost k zasvojenosti« kot morebitno značilnost zanosa, ki ima lahko negativne posledice. Kljub temu da so nekateri avtorji (npr. Csikszentmihalyi, 1991; Keller & Bless, 2008) že omenjali negativne posledice zanosa, je v literaturi na voljo premalo raziskav o njih. Glavni namen doktorske naloge je zato preučiti morebitne negativne posledice zanosa pri delu.

V prvem poglavju sem z uporabo kvantitativnega (bibliometrična analiza skupnega navajanja) in kvalitativnega pristopa (sistematični pregled) analizirala literaturo zanosa in tako dobila vpogled v predhodnike, značilnosti in posledice zanosa, ki so bile do sedaj preučevane znotraj različnih disciplin. Ugotovila sem, da je literatura zanosa razdrobljena ter na različnih področjih operacionalizirana, preizkušena in uporabljena na različne načine. Hkrati sem identificirala štiri prevladujoče discipline znotraj literature zanosa: psihologijo, športno psihologijo, trženje ter računalniško-človeško interakcijo. V nadaljevanju sem identificirala in opisala tudi najpogosteje preučevane značilnosti zanosa in 39 individualnih ter okoljskih predhodnikov, med katerimi so bili štirje individualni predhodniki in štirje okoljski predhodniki uporabljeni in preverjeni tudi v delovnem okolju. Prav tako pa sem identificirala tudi 40 posledic zanosa, med katerimi jih je bilo šest uporabljenih in preverjenih v delovnem okolju. S pomočjo pregleda literature sem hkrati identificirala ter opisala razmerja med zanosom in v literaturi najpogosteje omenjenimi podobnimi konstrukti (npr. notranja motivacija, zavzetost, vključenost ...). Na koncu prvega poglavja pa sem na podlagi preteklih ugotovitev o zanosu iz različnih disciplin oblikovala seznam predhodnikov, značilnosti in posledic zanosa, ki bi jih bilo smiselno preveriti tudi v delovnem okolju.

Pregled literature je hkrati pokazal, da je zanos morda povezan z neetičnim vedenjem. Da bi lahko empirično preučila razmerje med zanosom in nenamernim neetičnim ravnanjem, sem v drugem poglavju razvila mersko lestvico za etično slepoto. Pri razvoju le-te sem uporabila predlagane pristope za proces razvoja merskih lestvic. Na podlagi kvalitativnih podatkov (17 intervjujev) in treh različnih sklopov podatkov sem ugotovila, da je etična slepota večdimenzionalni konstrukt, ter razvila mersko lestvico za etično slepoto na delovnem mestu, ki je sestavljena iz 13 trditvev, ki merijo naslednje dimenzije etične slepote: racionalizacijo (pet trditvev), rutino (štiri trditve) in nevednost (štiri trditve).

Cilj tretjega poglavja je bil preučiti predhodnike in negativne posledice zanosu pri delu. Na podlagi teorije postavljanja ciljev sem predpostavila, da bodo zaposleni, ki imajo jasne in specifične cilje, verjetneje doživeli zanos. Poleg tega sem predpostavila, da zanos, spodbujen z jasnimi in specifičnimi cilji, spodbuja etično slepoto. Natančneje, v tem poglavju sem preučevala zanos v vlogi mediatorja v razmerju med jasnimi cilji in etično slepoto. Poleg tega sem predpostavila moderacijski vpliv časovnega pritiska na razmerje med jasnimi cilji in etično slepoto, ki je mediirano z zanosom. Postavljene hipoteze sem preverila s pomočjo podatkov, zbranih pri 151 zaposlenih. Rezultati raziskave so pokazali, da jasni cilji negativno vplivajo na etično slepoto. Poleg tega sem ugotovila, da zanos mediira odnos med jasnimi cilji in etično slepoto ter da ima časovni pritisk moderacijski vpliv na posredno razmerje med jasnostjo ciljev, mediirano z zanosom. Predvidevala sem pozitivno povezavo med jasnimi in specifičnimi cilji, zanosom, časovnim pritiskom in etično slepoto, vendar so rezultati pokazali, da je povezava med njimi negativna. Nasprotno od pričakovanega sem tako identificirala dve novi pozitivni posledici zanosu: zanos zmanjšuje nenamerno neetično vedenje in blaži negativne učinke časovnega pritiska.

V četrtem poglavju sem predvidevala, da bodo zaposleni, ki pogosto doživljajo zanos pri delu, verjetneje postali deloholiki. V nadaljevanju sem preučevala samoiniciativno preoblikovanje dela (angl. *job crafting*) kot mediator in prihodnjo časovno perspektivo kot moderator, ki spodbuja deloholizem. Postavljene hipoteze sem preverila z uporabo podatkov, ki sem jih zbrala od 146 profesorjev, učiteljev in raziskovalcev iz 24 evropskih držav. Ugotovila sem, da je zanos pri delu pozitivno povezan z deloholizmom. Zaposleni, ki pogosto doživljajo zanos pri delu, lahko prostovoljno posvečajo več časa in energije dejavnostim, ki so povezane z delom, in posledično zanemarijo druge pomembne (družinske in socialne) dejavnosti. Rezultati so tako potrdili, da ima lahko zanos tudi negativno posledico (tj. deloholizem). Poleg tega sem ugotovila, da samoiniciativno preoblikovanje dela mediira razmerje med zanosom in deloholizmom ter da prihodnja časovna perspektiva moderira indirektno razmerje med zanosom in deloholizmom, ki je mediirano s samoiniciativnim oblikovanjem dela. V tem poglavju sem predpostavila in potrdila tudi obrnjeno U-razmerje med zanosom in zadovoljstvom z ravnovesjem med delom in družino, kar kaže, da tudi pri zanosu najdemo učinek »preveč dobrih stvari«.

Teoretični prispevek doktorske naloge je v temeljitem pregledu obstoječe literature o zanosu, povzetku preteklih ugotovitev o teoriji zanosu znotraj različnih disciplin ter apliciranje ugotovitev na zanos pri delu. Eden najpomembnejših prispevkov mojega dela pa je teoretično in empirično preučevanje novih mehanizmov, ki nam lahko pomagajo pojasniti povezave med zanosom in njegovimi morebitnimi negativnimi posledicami. Hkrati pa k teoriji zanosu prispevam tudi z zagotavljanjem dokazov obrnjenega U-razmerja med zanosom pri delu in zadovoljstvom z ravnovesjem med delom in družino.

Ključne besede: teorija zanosu, etična slepota, deloholizem, obrnjeno U-razmerje, sistematični pregled literature, razvoj merske lestvice

THE NEGATIVE ASPECTS OF FLOW: EXAMINING RELATIONSHIPS BETWEEN FLOW AND UNETHICAL BEHAVIOR

SUMMARY

Flow has been perceived as a positive phenomenon that stimulates positive, organizationally relevant outcomes (Debus, Sonnentag, Deutsch, & Nussbeck, 2014). However, the very same Csikszentmihalyi (1991), the father of the flow theory, illustrated the possibility of negative aspects of flow by acknowledging its “addictive propensity.” Even though several other studies have also suggested that flow may have negative consequences, there is a paucity of research on such consequences at work. Thus, the primary aim of my dissertation is to examine the potentially negative consequences of flow at work.

In Chapter 1, I used a quantitative (a bibliometric co-citation analysis) and qualitative approach (systematic review) to analyze the flow literature and thereby provided insights into the antecedents, characteristics, and consequences of flow experience that have so far been examined in various settings. I found that the flow literature was fragmented, operationalized, tested, and applied in numerous ways across various domains. I also identified four dominant disciplines within flow literature: psychology, sport psychology, marketing, and computer-human interaction. Moreover, I identified the most commonly reported characteristics of flow and 39 individual and environmental antecedents, among which four individual antecedents (balance between task demand and ability, intrinsic motivation, achievement orientation, and passion) and four environmental antecedents (job resources, job characteristics, job dimensions, and leadership style) were applied or tested in the work environment. I also identified 40 consequences, among which only six were applied or tested in the work environment: performance, changes, adaptations, exploratory behavior, well-being, and creativity. In addition, I found that in the previous studies flow was most commonly compared with the following related constructs: intrinsic motivation, engagement, involvement, peak experience and performance, and thriving. Finally, I found that that past findings across various domains could provide us with plausible antecedents, characteristics, and consequences of flow that could be tested in the work setting.

A literature review has also shown that flow may be associated with unethical behavior. In order to empirically examine the relationship between flow and unintentional unethical behavior, I developed an ethical blindness scale. I followed the scale-development procedure guides presented in Chapter 2. Based on the qualitative data (17 interviews) and three quantitative data sets, I found that ethical blindness is a multidimensional construct and developed an ethical blindness scale for the workplace consisting of 13 items measuring the following dimensions of ethical blindness: rationalization (five items), routine (four items), and ignorance (four items).

The aim of Chapter 3 was to examine the antecedents and negative consequences of flow at work. Drawing on the goal-setting theory, I first proposed that employees who are faced with clear and specific goals will more likely experience flow. Furthermore, I proposed that flow, stimulated by clear and specific goals, promotes ethical blindness. Specifically, I examined flow as a mediating variable that strengthens the relationship between goal clarity and ethical blindness. In addition, I proposed that time pressure moderates the relationship between goal clarity and ethical blindness, mediated by flow. I tested these hypotheses in a field study among 151 employees. I found that goal clarity is negatively associated with ethical blindness. Moreover, I found that flow mediates the relationship between goal clarity and ethical blindness and that time pressure moderates the indirect relationship between goal clarity and ethical blindness, as mediated by flow. However, I proposed a positive association among goal clarity, flow, time pressure, and ethical blindness, but the results revealed a negative association among goal clarity, flow, time pressure, and ethical blindness. Taken together, contrary to expectation, the findings of this chapter highlighted two novel positive consequences of flow: flow decreases unintentional unethical behavior and mitigates the negative effect of time pressure.

In Chapter 4 I proposed that employees who often experience flow at work will more likely experience workaholism. Furthermore, I examined job crafting as a mediating variable and future time perspective as a moderating variable that stimulates workaholism. I tested these hypotheses in a field study among 146 professors, teachers, and researchers from 24 European countries. I found flow at work is positively associated with workaholism. Thus, employees who often experience flow at work may voluntarily spend more time and energy on work-related activities and thereby neglecting other important (family and social) activities. Thereby, I demonstrated the negative consequences of flow. Moreover, I found that job crafting mediates the relationship between flow and workaholism and that future time perspective moderates the indirect relationship between flow and workaholism, as mediated by job crafting. Finally, I also proposed and found evidence for an inverted U-shaped relation between flow at work and satisfaction with work life balance and thereby demonstrated the too-much-of-a-good-thing effect of flow.

This dissertation takes a step toward understanding flow in the work setting. I contribute to theoretical knowledge about flow at work by synthesizing the past research findings on flow theory across the dominant disciplines and combine them into a comprehensive framework of flow at work. One of the most important contributions of my dissertation is its conceptualization and empirical examination of important and novel theoretical mechanisms in explaining the link between flow and its potentially negative consequences. I also contribute to the flow theory by providing evidence for an inverted U-shaped relationship between flow at work and satisfaction with work life balance.

Keywords: flow theory, ethical blindness, workaholism, inverted U-shaped relationship, systematic literature review, scale development

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INTRODUCTION

Description of the dissertation topic area and the issues it addresses

Flow has become a central component within positive psychology (Seligman & Csikszentmihalyi, 2000) and is defined as a state when individuals become engaged in an activity that is challenging, controllable, and intrinsically motivating (Csikszentmihalyi, 1997b; Kawabata et al., 2008). Studies have shown that individuals more often experience flow during their work than during free/non-work time (Csikszentmihalyi & LeFevre, 1989; Delle Fave & Massimini, 1988; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; González-Cutre, Sicilia, Moreno, & Fernández-Balboa, 2009; Rodríguez-Sánchez, Schaufeli, Salanova, Cifre, & Sonnenschein, 2011). Furthermore, studies have demonstrated the positive effect of flow on various work-related outcomes such as higher self-esteem, productivity (Wells, 1988), higher life satisfaction (Han, 1988), positive mood, higher levels of satisfaction, constant search for challenges (Ceja & Navarro, 2011), positive emotions (Eisenberger et al., 2005), exploratory behavior (Ghani & Deshpande, 1994), feelings of wellbeing and many others. Individuals who often experience flow at work sense the positive consequences of flow, which also affects the organization by increasing creativity at work, the commitment to work and organizational spontaneity (Ceja & Navarro, 2011). Flow also promotes joy at work, focus on tasks and the self-motivation for these tasks and thus encourages creativity (Sosik, Kahai, & Avolio, 1999).

Thus, flow has been perceived as a positive phenomenon that stimulates positive, organizationally relevant outcomes (Debus, Sonnentag, Deutsch, & Nussbeck, 2014). However, Csikszentmihalyi (1991), the father of flow theory, illustrated the possibility of some negative aspects of flow. When in flow, the experience itself is so enjoyable that individuals will do it event at a great cost (Csikszentmihalyi, 1991). Furthermore, Keller and Bless (2008) argue that “flow is not necessarily related to positive ethical or social consequences because flow experiences can become addictive (e.g., gambling, video games) and flow can be experienced when individuals engage in antisocial activities (e.g., crime and warfare)” (pp. 198-199).

Moreover, individuals can also experience flow when engaged in destructive, addictive or wasteful activities (Csikszentmihalyi, 1999). Nakamura and Csikszentmihalyi (2002) also acknowledged that individuals can also seek flow in activities that are neutral or even destructive to the self and/or work/culture. Further, flow also occurs during activities that involve high levels of risk and expertise (Csikszentmihalyi, 1990). Namely, high levels of flow were found in activities performed illegally and with a risk of being caught by authorities (e.g., graffiti spraying) (Peifer, Schulz, Schächinger, Baumann, & Antoni, 2014; Rheinberg & Manig, 2003). Even though several studies have suggested that flow may have negative consequences, there is a paucity of research about the negative consequence

of flow at work. However, scholars must gain more knowledge regarding the negative consequences of experiencing flow before fully embracing the recommendation to promote or stimulate the experience of flow in organizations. Gaining more knowledge regarding the negative consequences of flow may enable us to prevent these possible unintended negative consequences. Thus, the main thesis of the dissertation is that flow has negative consequences.

Research questions addressed in this dissertation

The relationship between the goal clarity, flow, time pressure and ethical blindness

Flow is likely to occur when an individual is faced with a task that requires specific responses (Csikszentmihalyi, 1997). Goal clarity, defined as clear and specific goals, may thus promote flow by focusing the employee's attention on the specified objective and thereby stimulate the task-related effort (Barsky, 2008). However, goal clarity may also have unintended consequences beyond enhancing task performance (Locke & Latham, 1990). A possible unintended consequence of goal clarity is unethical behavior. For example, Schweitzer, Ordonez, and Douma (2004) found a strong relationship between specific challenging goals and unethical behavior. However, the important but currently unaddressed question in literature is the following: why, or through what mechanisms, do goals influence (un)ethical behavior? (Barsky, 2008).

I propose that the possible answer is through flow, since clear and specific goals promote flow at work (Salanova, Bakker, & Llorens, 2006). Furthermore, while being in flow, the implementation of an activity becomes spontaneous, effortless and almost automatic, and individuals have a strong sense of what has to be done (Csikszentmihalyi, 1991; Fullagar & Mills, 2008; Jackson & Hanin, 2000). They ignore all irrelevant information that may be construed as an impediment (Beard & Hoy, 2010; Csikszentmihalyi, 1991; Jackson & Hanin, 2000), so individuals' awareness becomes bounded. Therefore, because of this bounded awareness while in flow, individuals may unintentionally forget or ignore the ethical dimension if it does not directly relate to the activity itself (Palazzo, Krings, & Hoffrage, 2012); consequently, they may become ethically blind and behave unethically without being aware of it. This is why I provide, in Chapter 3, an empirical examination of whether flow, stimulated by goal clarity, may have some unintentional negative consequences when applied to ethical behavior. Thus, the first research question of my dissertation is as follows – *RQ1a: Is there any relationship between goal clarity, flow and ethical blindness?*

In addition, I propose that time pressure, which is often present in today's work environment, strengthens the relationship between flow and ethical blindness. Time pressure is defined as "either subjectively perceived time pressure or the imposition of a deadline" (Amabile et al., 2002, p. 1). When faced with time deadline pressure, individuals

are more likely to use “short cuts” (Payne, Bettman, & Johnson, 1988). While experiencing flow, the sense of time is distorted and goals are clear (Csikszentmihalyi, 1997). However, under perceived time pressure, individuals may lose sight of their ethical obligation in rushing to accomplish pressing goals (Darley & Batson, 1973; Moberg, 2000). Thus, the second part of the first research question of my dissertation is (Chapter 3) – *RQ1b: What is the influence of time pressure on the flow-ethical blindness relationship?* An important contribution of this chapter is the theoretical conceptualization and empirical investigation of the negative consequences of flow.

The relationship between flow, job crafting, time perspectives and workaholism

Due to busy and hectic lifestyles, a challenging business world, dynamic changes in working patterns, developments in technology and employment uncertainty, individuals may over-commit their energies and time to their working lives (Harpaz & Snir, 2003; Tabassum & Rahman, 2013). Scholars described this phenomenon using the term *workaholism*. Some authors view workaholism as a positive phenomenon and others see it as a negative phenomenon. Workaholism can thus be defined as “the compulsion or the uncontrollable need to work incessantly,” thereby as a kind of addiction (Oates, 1971, p. 11) or as phenomenon that develops from the love of work (Cantarow, 1979). However, there appears to be a consensus that workaholics dedicate an excessive amount of time, energy and effort to their work and thereby neglect other non-work aspects of their lives (Mudrack & Naughton, 2001; Tabassum & Rahman, 2013). However, even though this phenomenon is critically important for employers and employees, beyond this consensus, little empirical research has been undertaken to deepen our understanding of this phenomenon (Harpaz & Snir, 2003; Tabassum & Rahman, 2013).

In Chapter 4, I propose that flow theory can further the understanding of the reasons individuals become workaholics. Under certain conditions, flow may lead to addiction, as it causes a very pleasant feeling that individuals are willing to do almost everything to feel again (Csikszentmihalyi, 1991). Thus, I propose that individuals who often experience flow at work may become addicted to work and thereby workaholics. As aforementioned, workaholics focus their time and energy on work-related activities and thus produce negative consequences for social, family and other activities (Porter, 1996; Robinson, 1998). Therefore, from the social or family perspective, workaholics’ behavior may be perceived as behavior that is unacceptable to the social or family community.

When in flow, individuals become fully involved in work activity, and experience is so enjoyable that individuals are willing to work more, push their limits, sacrifice time and ignore things that are irrelevant to the experience of flow at work. Moreover, individuals who experience flow at work may focus their awareness on the working activity itself, and everything else will then be forgotten and all distractions will be excluded from their

consciousnesses. They will only focus on their job activity and neglect the other spheres of their life. Thus, the first part of the second research question of my dissertation is – *RQ2a: Is there a relationship between flow and workaholism?*

Furthermore, I propose that job crafting influences the relationship between flow and workaholism. Wrzesniewski and Dutton (2001) defined job crafting as “the physical and cognitive changes individuals make in the task or relation boundaries of their work” (p. 179). Furthermore, job crafting is defined as a proactive behavior consisting of three different types of behaviors: increasing job resources; increasing job challenges; and decreasing job demands (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims & Bakker, 2010; Tims, Bakker, & Derks, 2012). In order to achieve flow over and over again, an individual must continuously seek greater challenges and develop greater skills to reach those challenges. Therefore, as I am interested in the link between flow, job crafting and workaholism, the second part of my second research question of my dissertation is as follows – *RQ2b: What is the relationship between flow, job crafting and workaholism?*

In addition, I propose that individual factors might shape the relationship between job crafting and workaholism. More precisely, I propose that time perspective, defined as an important personal factor that has a tremendous effect on how we live our lives (Boniwell & Zimbardo, 2004; Zimbardo & Boyd, 1999), influences this relationship. Time perspective is defined as a “nonconscious process whereby the continual flow of personal and social experiences are decomposed or allocated into selected temporal categories or frames that help give order, coherence, and meaning to those events” (Zimbardo & Boyd, 1999, p. 1271). According to Zimbardo and Boyd (1999), there are five time frames/dimensions: Past-Positive, Past-Negative, Present-Hedonistic, Present-Fatalistic, and Future.

I focus only on the Future dimension since it is likely to be significantly related to workaholism. The Future dimension reflects planning for and achieving future goals (D'Alessio, Guarino, De Pascalis, & Zimbardo, 2003; Zimbardo & Boyd, 1999). Future orientation is positively correlated with conscientiousness, consideration of future consequences, preference for consistency and the self-report hours spent studying per week (Zimbardo & Boyd, 1999). Future-oriented individuals perform activities today in order to affect a positive future consequence and achieve future goals. Therefore, future-oriented individuals will more likely sacrifice their time and become fully dedicated to work (they will seek new resources and challenges) in order to achieve long-term goals. Hence, the third part of the second research question of my dissertation is – *RQ2c: What is the influence of time perspective on the job crafting-workaholism relationship?* With the conceptualization and empirical examination of the proposed relationship, I contribute to the flow theory by assessing the possible addictive nature of flow. Furthermore, I also contribute to workaholism theory by examining and empirically assessing possible

circumstances under which workaholism occurs. Finally, I also contribute to the understanding of the ethical blindness construct by providing a deeper understanding of the reasons individuals behave unethically with regard to themselves.

Moreover, there is a call in the literature for systematically studying the cost of positive experience (Grant & Schwartz, 2011; Pierce & Aguinis, 2013). I propose that flow and satisfaction with work life balance (SWLB) are plausible candidates for inverted U-shaped relationships. SWLB is defined as “an overall level of contentment resulting from an assessment of one’s degree of success at meeting work and family role demands” (Valcour, 2007, p. 1512). In order to achieve satisfying experience in all life domains, individuals must properly distribute personal resources such as energy, time and commitment across domains (Kirchmeyer, 2000).

Valcour (2007) argues that working hours have a negative impact on SWLB, whereas job complexity and job control have positive impacts on SWLB. In order to experience flow at work, individuals must engage in challenging, complex work, and flow experience will allow them to experience the sense of control over the given activity. Thus, flow at work may have a positive impact on SWLB. However, as aforementioned, individuals who often experience flow at work may become fully focused on work-related activities, thus dedicating more time and energy to work activities and thereby neglecting social, family and other activities. High levels of flow at work may thereby decrease SWLB. Thus, the fourth part of the second research questions of my dissertation is – *RQ2d: Is there an inverted U-shaped relationship between flow and SWLB?* Thereby, I contribute to the flow theory by examining the too-much-of-a-good-thing effect of flow experience.

Structure of the dissertation

This dissertation is structured as follows. Following the introduction, Chapter 1 presents the literature review of flow theory. I used bibliometric co-citation analysis to identify dominant disciplines within the flow literature and also used systematic review to synthesize past research findings on flow across domains in order to provide a basis for other chapters. Since one of the aims of the dissertation is to examine the relationship between flow and ethical blindness, I developed an ethical blindness scale and presented it in Chapter 2. In Chapter 3, I then investigate the relationship between goal clarity (antecedent of flow), flow, time pressure and ethical blindness (negative consequence). Further, in Chapter 4, I examine another potential negative consequence of flow and test the relationship between flow, job crafting, future time perspective and workaholism. In addition, in Chapter 4, I also examine the inverted U-shaped relationship between flow and SWLB. In the final chapter of the dissertation (Chapter 5), I outline a discussion of the overall findings of the dissertation, theoretical and practical contribution, limitations of the dissertation and avenues for future research.

1 FLOW EXPERIENCE: BIBLIOMETRIC CO-CITATION ANALYSIS AND A SYSTEMATIC REVIEW OF THE LITERATURE

The flow literature has been fragmented, operationalized, tested, and applied in numerous ways across various domains. In this chapter, I used bibliometric co-citation analysis to produce a quantitative literature review that resulted in identification of the dominant disciplines within the flow literature. Based on the bibliometric co-citation analysis, I identified four dominant disciplines: psychology, sport psychology, marketing, and computer–human interaction. Further, I conducted a systematic review of the literature to qualitatively synthesize past research findings on flow experience. Based on a systematic review of literature published over the past 40 years, I summarized research evidence on the antecedents, characteristics, and consequences of flow experience from various domains. I also identified and compared similarities and differences between flow and other related constructs (e.g., engagement, involvement, passion, thriving, intrinsic motivation, and peak experience). Finally, I synthesized various research findings into a comprehensive framework of flow at work. Specifically, I present the antecedents, characteristics, and consequences of flow experience that were tested in a work context. In addition, I identified some findings about flow experience across psychology, human–computer interaction, marketing, and sport psychology that could be applied to the work context. I also provide recommendations for future research and present research implications.

1.1 INTRODUCTION

Flow experience is a central construct within positive psychology (Kawabata, Mallett, & Jackson, 2008; Seligman & Csikszentmihalyi, 2000), defined as a “holistic sensation people feel when they act with total involvement (in an activity)” (Csikszentmihalyi, 1975, p. 36). It is associated with many positive consequences, such as better performance (Engeser & Rheinberg, 2008; Jackson & Roberts, 1992; Sokolowski, Schmalt, Langens, & Puca, 2000), learning (Csikszentmihalyi & LeFevre, 1989; Webster, Trevino, & Ryan, 1993), increased communication (Trevino & Webster, 1992), increased exploratory behavior (Ghani & Deshpande, 1994; Webster et al., 1993), contextual motivation (Abuhamdeh & Csikszentmihalyi, 2009; Kowal & Fortier, 1999), social integration (Massimini, Csikszentmihalyi, & Delle Fave, 1988), creativity, and maximized efficiency (Chen, 2006; Csikszentmihalyi, 1988b, 1990, 1997a; Lambert, Chapman, & Lurie, 2013; Nakamura & Csikszentmihalyi, 2002; Real, Dickhaus, Ludolph, Hautzinger, & Kübler, 2014; Steele & Fullagar, 2009). Thus, in recent years flow experience has attracted increased attention from scholars in a variety of academic disciplines, such as education and learning, sports, music, consumer behavior, and human–computer interaction (Nakamura & Csikszentmihalyi, 2009).

Several studies have also applied flow experience in a work context and demonstrated that individuals more often experience flow while engaging in work-related activities than during leisure activities (Csikszentmihalyi, 1997b; Csikszentmihalyi & LeFevre, 1989; Delle Fave & Massimini, 1988). Work was found to be a major source of flow for adults (Csikszentmihalyi & LeFevre, 1989), which is not surprising given that many of the characteristics of flow (such as clear goals, immediate feedback, and commensurate challenges and skills) are more likely to be found in work activities (Fullagar & Kelloway, 2009).

Even though scholars have started to become interested in flow at work, studies on flow in the work context are still relatively rare (Aubé, Brunelle, & Rousseau, 2014; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; Fullagar & Kelloway, 2009). In a few studies involving flow at work, four issues have received attention: (i) understanding the characteristics and frequency of flow at work (e.g., Llorens, Salanova, & Rodríguez, 2013), (ii) exploring the factors that influence (i.e., facilitate, disrupt, and prevent) flow occurrence at work (e.g., Nielsen & Cleal, 2010), (iii) exploring the consequences of flow at work (e.g., Aubé et al., 2014), and (iv) understanding the common components and differences between flow at work and related constructs (i.e., intrinsic motivation, engagement, and involvement).

This study aims to address these issues and thereby deepen our understanding of the literature on flow at work, as well as to explore implications for the field of flow experience more generally. Although flow has been operationalized, tested, and applied in numerous ways (Bakker, 2008; Choi, Kim, & Kim, 2007; Finneran & Zhang, 2003; Swann, Keegan, Piggott, & Crust, 2012), researchers have adopted the traditional flow conceptualization for most of the empirical work in various contexts (Finneran & Zhang, 2003). My intent in this study is to bring together all specific facets of flow experience by consolidating the extant research and establishing a connection between flow at work and other specific facets of flow experience. In other words, the existing literature on flow experience across various domains and disciplines may help to structure our understanding of flow at work.

Thus, I will use a quantitative and qualitative approach to synthesize past research findings on flow experience. In particular, I will conduct a bibliometric co-citation analysis and a systematic review analysis of flow research across various domains to examine how disciplines and papers are related to one another. Thus, I will not focus exclusively on theoretical developments and empirical studies on flow at work. Namely, I presume that theoretical and empirical findings on flow from other disciplines may be applied to the work context and deepen our understanding of flow at work. I will combine past findings into a comprehensive framework of flow at work.

The objectives of a bibliometric co-citation analysis and systematic review analysis are to: (i) summarize research evidence on flow experience from various domains; (ii) investigate the characteristics, antecedents, and consequences of flow; (iii) identify and compare similarities and differences between flow and other related constructs; and (iv) synthesize past findings into a comprehensive framework of flow at work.

Bibliometric methods, reviews, and meta-analyses are rare and narrowly focused on specific facets of flow experience (e.g., Boyle, Connolly, Hainey, & Boyle, 2012; D’Mello, 2013; Dietrich, 2004; Finneran & Zhang, 2003). To the best of my knowledge, no review has synthesized past research findings on flow experience across various disciplines, and then further applied the findings across various domains to flow in the work context. Thus, my first contribution is a review of the flow literature leading to the development of a comprehensive framework of flow at work. This comprehensive framework of flow at work is an attempt to assemble past research across various domains and to propose a new understanding of the characteristics, antecedents, and consequences of flow at work, as well as an understanding of the similarities and differences between flow at work and other constructs. Second, I also contribute to the field of flow research by providing evidence of overlaps between diverse and fragmented research of flow theory and research on flow at work.

In what follows, I first describe the bibliometric co-citation analysis. Next, I describe the research methodology of the systematic review and then present the review and classification of the results, followed by a synthesis of my findings. Finally, I discuss the main findings of the review, propose avenues for future research, and present a comprehensive framework of flow at work.

1.2 BIBLIOMETRIC CO-CITATION ANALYSIS OF FLOW EXPERIENCE

A bibliometric co-citation analysis provides us “an analysis of what is regarded as the consensus of what the collective research agenda in a certain research field or journal is” (Walter & Ribière, 2013, p. 222). It uses a co-citation count, defined as the frequency with which two units are cited together (Small, 1973), to explain a measure of similarity or dissimilarity between documents, authors, or journals (McCain, 1990; Zupic & Čater, 2015). A bibliometric co-citation analysis assumes that the more two items are cited together, the more likely it is that their content is closely related, either because they belong to the same topic area or because their topic areas are closely connected (Cawkell & Newton, 1976; Garfield, 1983; Small, 1973; Zupic & Čater, 2015). Thus, a bibliometric co-citation analysis is a useful tool to depict the grouping of authors, topics, journals, or methods (Köseoglu, Sehitoglu, & Craft, 2015). Further, bibliometric methods allow us to examine how disciplines, fields, and individual papers are related to one another (Zupic & Čater, 2015). Thus, I used bibliometric co-citation analysis to investigate the relationships

among prior work to explore the patterns within the flow theory intellectual tradition (Baker, 1990). Since flow theory had been applied across various disciplines, my expectation was that this investigation would reveal the dominant disciplines and main authors within and across disciplines.

1.2.1 Generating the bibliometric data

I used the Social Sciences Citation Index (SSCI) of the Web of Science to retrieve citation data. I searched the Web of Science database for all articles with the words “flow experience” or “flow theory” in their abstract, title, or keywords. I used all years available in the citation database. Initial articles were then individually assessed to determine whether they did, in fact, focus on the flow theory, and not on some unrelated theory (e.g., cash-flow theory, traffic-flow theory, information-flow theory, gas-flow theory). This generated 854 articles that formed the data sample for the analysis. I exported the bibliographic data with cited references for these articles to BibExcel for bibliometric analysis (Persson, Danell, & Schneider, 2009), as recommended by Zupic and Čater (2015).

1.2.2 Co-citation analysis

The first step within the bibliometric co-citation analysis procedure (i.e., tabulating the list of the most cited documents and journals) revealed the most cited documents in the field. As depicted in Table 1, a book by Csikszentmihalyi (1990) was by far the most cited document, followed by the book wherein he introduced flow theory (Csikszentmihalyi, 1975). The third most cited was a document by Novak, Hoffman, and Yung (2000), published in *Marketing Science*, which examined the measuring of flow construct in online environments. The results also showed that the sixth most cited document was a paper by Jackson and Marsh (1996) from *Journal of Sport & Exercise Psychology* in which the development and validation of the Flow State Scale was described. The list of the most cited documents revealed that flow theory was applied across different disciplines (e.g., psychology, sport psychology, marketing, human–computer interaction).

Table 1: Most cited documents in the field

Data on the document (First author, year, volume, first page, journal/book)	No. of Citations
Csikszentmihalyi M, 1990, Flow Psychol Optimal	158
Csikszentmihalyi M, 1975, Boredom Anxiety	117
Novak T, 2000, V19, P22, Market Sci	92
Hoffman D, 1996, V60, P50, J Marketing	79
Webster J, 1993, V9, P411, Comput Hum Behav	64
Jackson S, 1996, V18, P17, J Sport Exercise Psy	63
Csikszentmihalyi M, 1989, V56, P815, J Pers Soc Psychol	60
Trevino L, 1992, V19, P539, Commun Res	57
Csikszentmihalyi.M, 1988, Optimal Experience P	55
Ghani J, 1994, V128, P381, J Psychol	53
Fornell C, 1981, V18, P39, J Marketing R	44
Deci E, 1985, Intrinsic Motivation	41
Koufaris M, 2002, V13, P205, Inform Syst Res	40
Skadberg Y, 2004, V20, P403, Comput Hum Behav	29
Anderson J, 1988, V103, P411, Psychol Bull	29
Agarwal R, 2000, V24, P665, Mis Quart	29
Hsu C, 2004, V41, P853, Inform Manage-Amster	28
Chen H, 1999, V15, P585, Comput Hum Behav	28
Novak T, 2003, V13, P3, J Consum Psychol	27
Davis F, 1989, V13, P319, Mis Quart	27
Moneta G, 1996, V64, P275, J Pers	27
Jackson S, 1992, V4, P161, J Applied Sport Psyc	26
Baron R, 1986, V51, P1173, J Pers Soc Psychol	24
Nakamura J, 2002, P89, Hdb Positive Psychol	24
Jackson S, 2002, V24, P133, J Sport Exercise Psy	23
Csikszentmihalyi M, 1997, Finding Flow Psychol	23
Steuer J, 1992, V42, P73, J Commun	23
Jackson S, 1998, V20, P358, J Sport Exercise Psy	23
Jackson S, 1996, V67, P76, Res Q Exercise Sport	22
Privette G, 1983, V45, P1361, J Pers Soc Psychol	22
Jackson S, 2001, V6, P156, Sport Psychol	22
Jackson S, 2001, V13, P129, J Appl Sport Psychol	21
Mathwick C, 2004, V31, P324, J Consum Res	21
Bakker A, 2005, V66, P26, J Vocat Behav	21
Ellis G, 1994, V26, P337, J Leisure Res	20
Jackson S, 1999, Flow Sports Keys Opt	20

I also tabulated a list of the most cited journals. The results are presented in Table 2. Similarly, the list of the most cited journals also revealed that flow theory has appeared in top-ranked journals across various disciplines. This implies that, in order to deepen our understanding of flow theory, research evidence from various domains should be summarized.

Further, I performed a network analysis. First, I had to choose the cutoff point to limit the number of documents for co-citation analysis (Zupic & Čater, 2015). After several trials with different cutoff points, I decided to limit the analysis to references that were cited 20 or more times. As recommended by Zupic and Čater (2015), I then calculated the co-citation data and exported it to the Pajek network analysis software (Batagelj & Mrvar, 1998) for further analysis and visualization. Figure 1 presents the whole co-citation network of all related citations in the field, visualized with the Kamada-Kawai algorithm.

Table 2: Most cited journals in the field

<i>Journals</i>	<i>No. of Citations</i>
Journal of Consumer Research	485
Journal of Personality and Social Psychology	427
Journal of Marketing	355
Academy of Management Journal	351
Computers in Human Behavior	349
MIS Quarterly	287
Journal of Sport & Exercise Psychology	265
Journal of Marketing Research	252
Administrative Science Quarterly	249
Journal of Applied Psychology	231

To reduce the complexity of the network, I removed lines with values less than 10. In addition, I added vertices according to the number of citations and distinguished the citations by color. This is presented in Figure 2, where each node represents one author, the size of the node corresponds to the number of citations, and the color of the node presents the publication year. Specifically, the larger the node, the more the paper has been cited. Moreover, identically-colored nodes were published in the same year, and the thickness of the line between the two nodes provides information about the strength of the co-citation. Figure 3 depicts the network of the flow theory field in chronological order.

Further, I applied the Louvain community-finding algorithm in Pajek and found six subgroups of cited papers that represent the intellectual structure of the flow theory. All subgroups are presented in Figure 4.

Figure 1: The whole co-citation network of the flow theory field

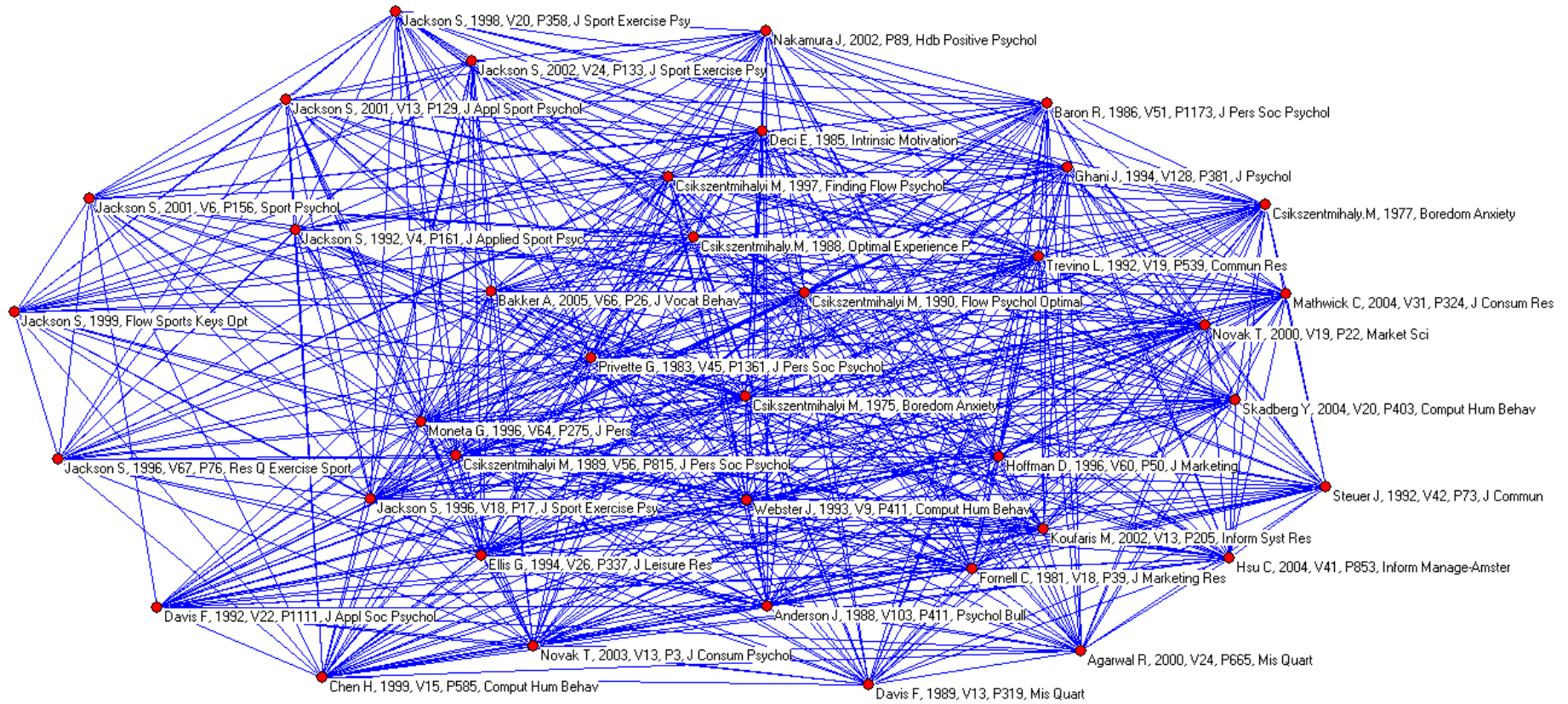


Figure 2: Flow theory co-citation network

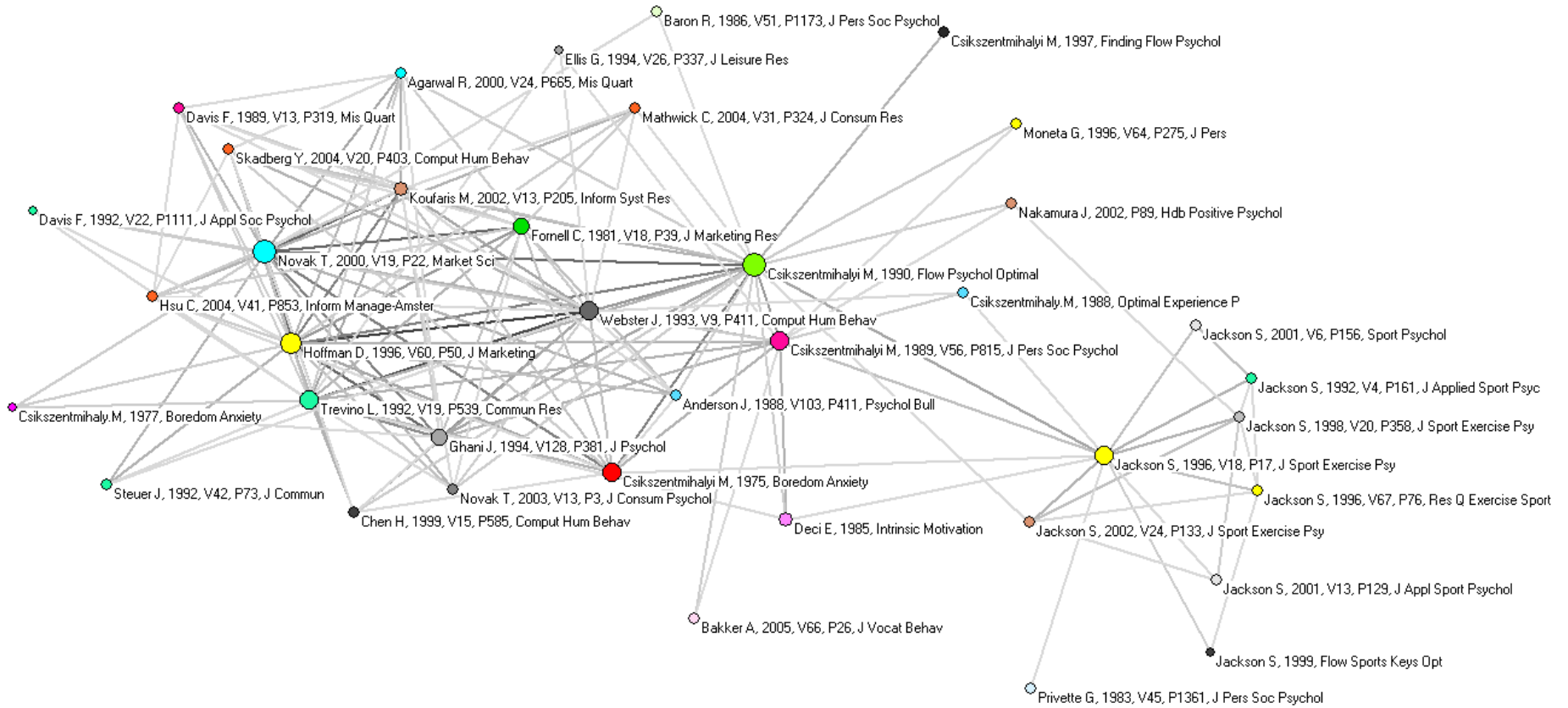


Figure 3: Flow theory co-citation network (chronological view)

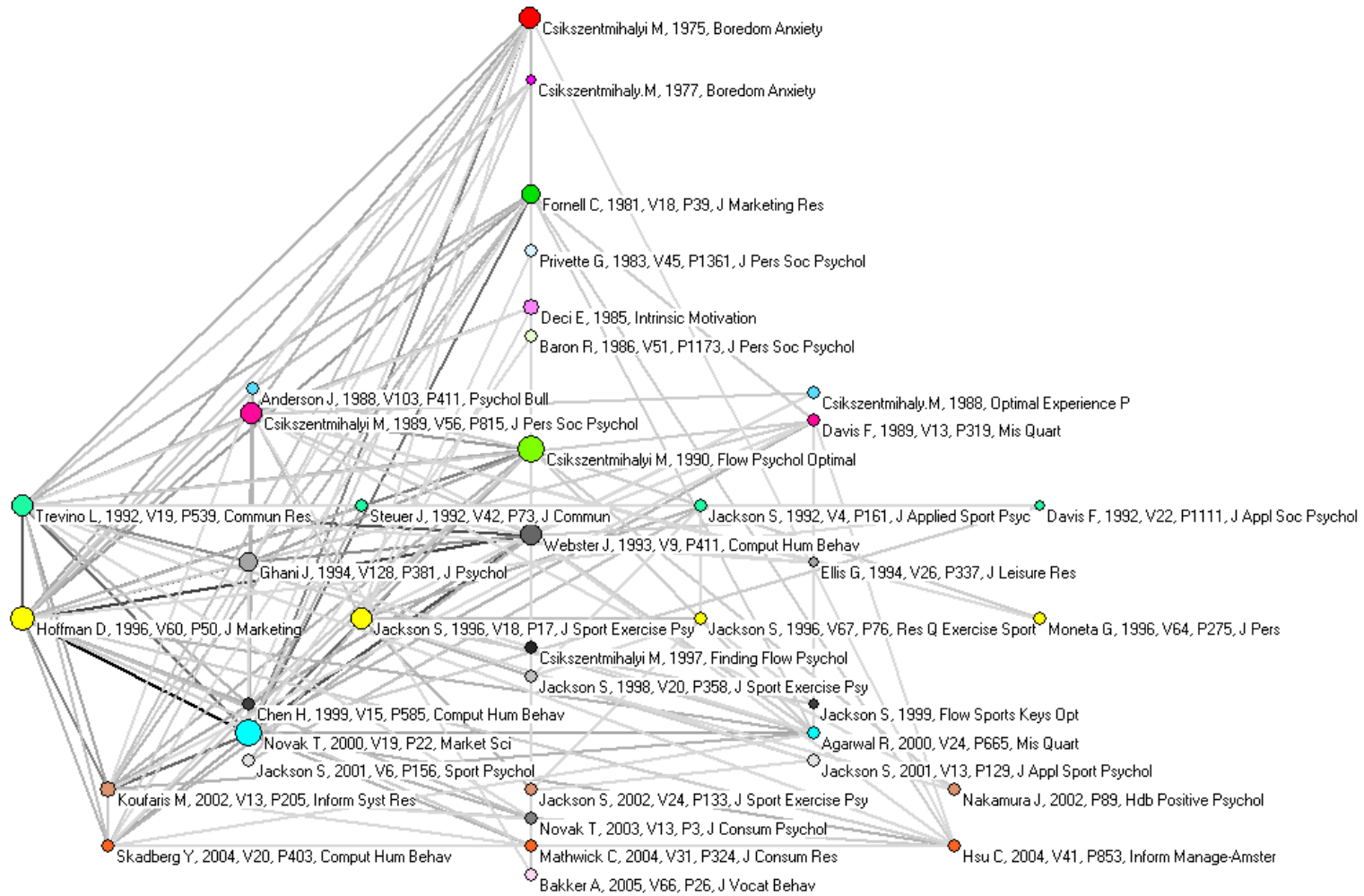
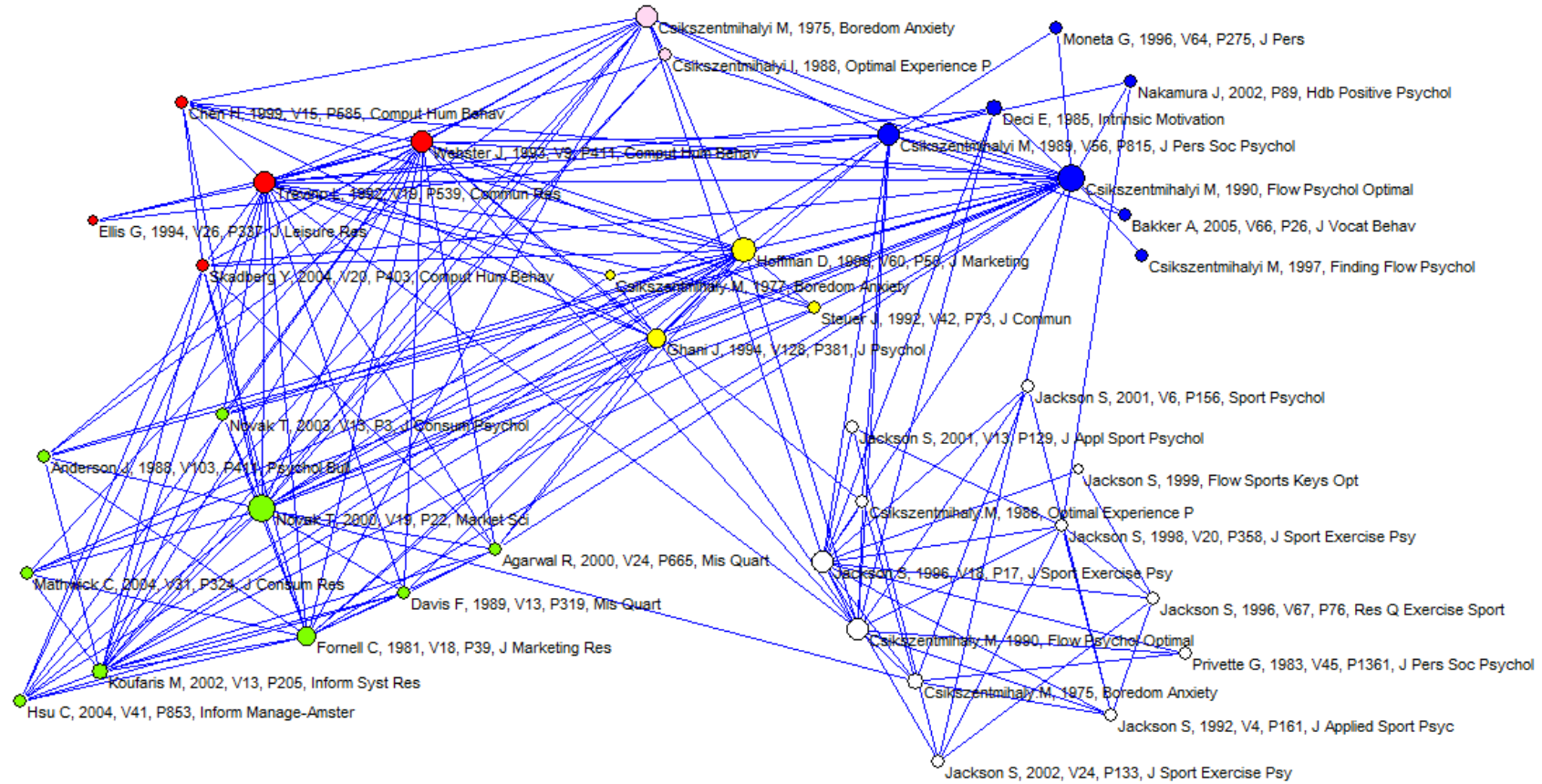


Figure 4: Flow theory co-citation network – 6 subgroups (Louvain algorithm)



The subgroups represent the knowledge base of flow theory across various disciplines. However, after reviewing the proposed subgroups, I found that two subgroups could be combined into the other four groups. Thus, I report four subgroups here, representing the knowledge base of flow theory across four disciplines. I labeled the subgroups as follows: flow research within the psychology discipline (see Figure 5), flow research within sport psychology (see Figure 6), flow research within the marketing discipline (see Figure 7), and flow research within the human–computer discipline (see Figure 8). As shown in Figures 6 and 7, studies in two subgroups examined the flow theory within the sport psychology and marketing disciplines. Studies in the aforementioned subgroups primarily focused on flow theory within the sport psychology or marketing disciplines; however, researchers who cited these studies also showed an interest in the flow theory from a psychological view and cited at least one of Csikszentmihalyi’s works. This is not surprising because flow theory is grounded in the psychology discipline.

Figure 5: Flow research within psychology discipline

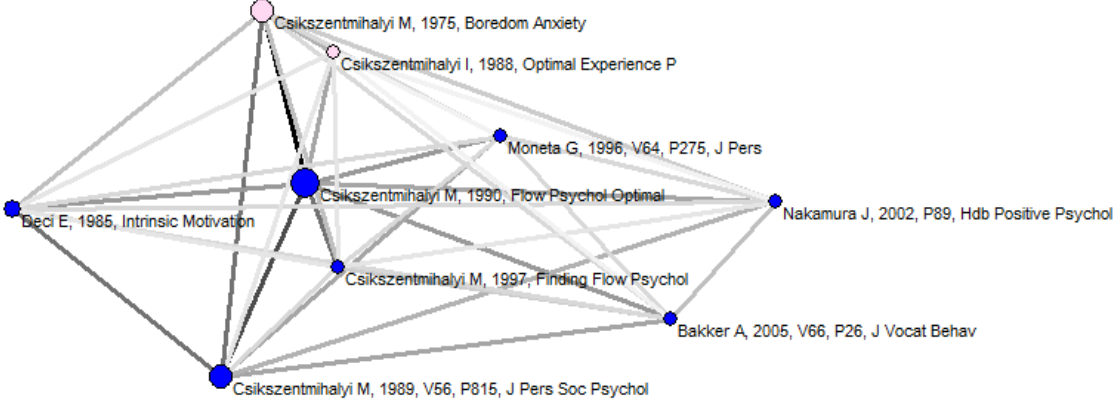


Figure 6: Flow research within sport psychology

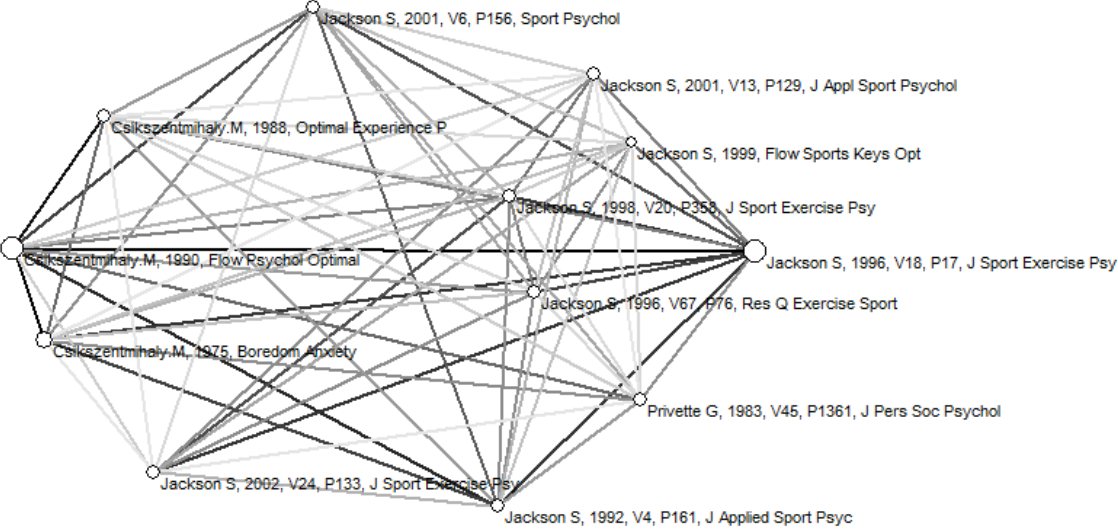


Figure 7: Flow research within marketing discipline

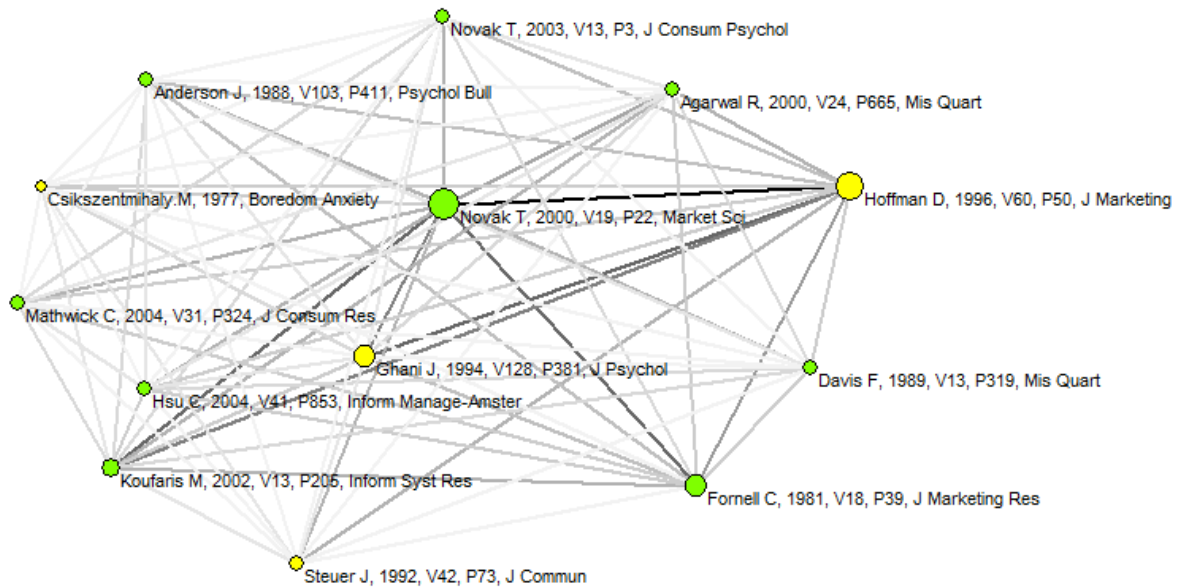
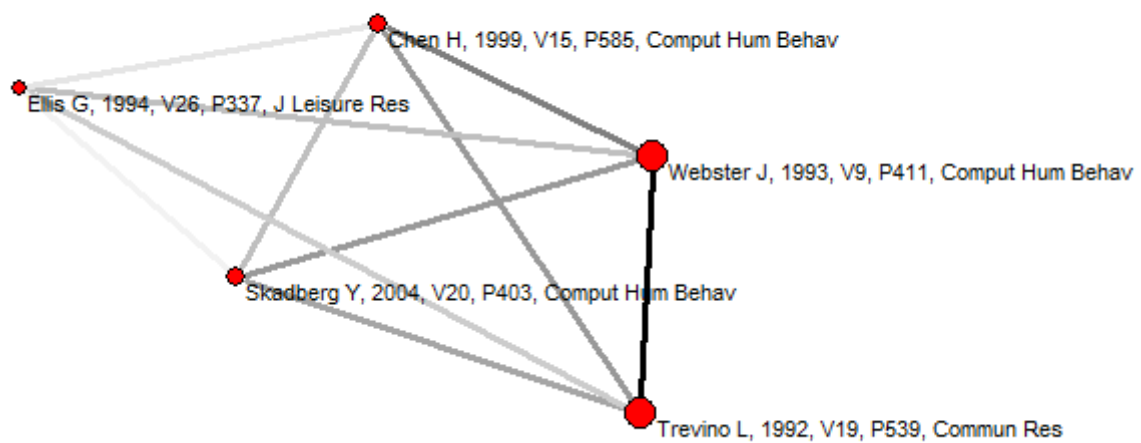


Figure 8: Flow theory and human-computer



1.2.3 Discussion of the co-citation analysis results

Bibliometric co-citation analyses revealed that flow theory has been applied and discussed in four key disciplines: psychology, sport psychology, marketing, and human–computer interaction. First, flow theory originated from Csikszentmihalyi’s (1975) work in psychology. Within psychology, flow has been associated with intrinsic motivation (Deci & Ryan, 1985), which is not surprising because Csikszentmihalyi (1975, 1988a, 1990, 1997b) used this theory to describe the experience of intrinsically motivated individuals. Further, flow theory has become a central component within positive psychology

(Nakamura & Csikszentmihalyi, 2002). Finally, flow theory has also been applied to work psychology (Bakker, 2005).

Second, flow theory has also been applied in the field of sport psychology. In order to continually experience flow, individuals have to constantly seek to master new challenges and develop greater levels of skills (Csikszentmihalyi, 1990). Sports are well designed to meet these criteria, and thereby, sports activities are ideal for producing flow. Jackson (1999, 2002, 1996, 1992) is the leading author in the field of flow in sport psychology, who also, together with Marsh, developed and validated the Flow State Scale (Jackson & Marsh, 1996) to measure the experience of flow.

Bibliometric analysis also revealed that flow theory has been applied in the marketing discipline. For example, flow was found to be an important construct for marketers and was used primarily to explain online consumer behavior (e.g., Hoffman & Novak, 1996; Mathwick & Rigdon, 2004).

Finally, flow theory was also found to be an important construct in the human–computer discipline since it characterizes the perception of human interactions with computer-mediated communication technologies (Trevino & Webster, 1992; Webster et al., 1993). Studies have also provided evidence on the existence of the experience of flow in the Web environment (Chen, Wigand, & Nilan, 1999; Skadberg & Kimmel, 2004).

Taken altogether, in order to deepen our understanding of flow theory, we should summarize research evidence on flow experience from at least the following disciplines: psychology, sport psychology, marketing, and human–computer interaction. In what follows, I use a systematic review of the literature to synthesize past research findings on flow experience across various disciplines.

1.3 SYSTEMATIC REVIEW OF THE LITERATURE

A systematic review is defined as a rigorous process, incorporating transparency, clarity, and repeatability (Khan, Kunz, Kleijnen, & Antes, 2003; Petticrew & Roberts, 2008; Thorpe, Holt, Macpherson, & Pittaway, 2005), aims to minimize systematic bias (Egger, Dickersin, & Smith, 2001) and to improve the quality of the review process (Tranfield, Denyer, & Smart, 2003). Although systematic reviews synthesize research in an orderly, explicit, and transparent way (Torgerson, 2003; Tranfield et al., 2003), this methodology has several limitations, including publication bias (e.g., publishing preference of particular disciplines, studies with statistically significant results more likely to get published than studies without significant results), exclusion of a relevant article due to poorly written abstracts, large amounts of material to review, difficulty in synthesizing data from various disciplines, and insufficient representation of books (Crossan & Apaydin, 2010; Egger et al., 2001; Pittaway, Robertson, Munir, Denyer, & Neely, 2004).

Despite the abovementioned limitations, the systematic review methodology is a powerful tool to establish generalizability of research findings and to map out directions for future research (Mulrow, 1994). In this study, I used the methodology of systematic review because it allowed me to: (i) remove the subjectivity of data collection by using predefined selection criteria, and (ii) provide a comprehensive and conceptual consolidation across a fragmented field based on qualitative analysis of the results (Crossan & Apaydin, 2010). Thus, the systematic review process in this study consisted of systematic data collection, qualitative data analysis, and theoretically grounded synthesis (Crossan & Apaydin, 2010).

1.3.1 Methodology description

I followed Tranfield et al.'s (2003) three-stage protocol for conducting a systematic review: planning the review, conducting the review, and reporting and dissemination. During the *planning stage*, I intentionally defined a broad objective: to assess the range of theoretical similarities and differences found in the flow research domain. Further, during the first stage I also identified the key data sources. According to Podsakoff, Mackenzie, Bachrach, and Podsakoff (2005) peer-reviewed journals can be considered as validated knowledge and most likely have the highest impact in their field; thus, I chose to limit data sources to only peer-reviewed journals. I chose the ISI Web of Knowledge's Social Sciences Citation Index (SSCI) as a database of record because "it is one of the most comprehensive databases of peer-reviewed journals in social science" and "its unique feature of citation counts allows a triage of a large pool of articles based on this objective measure of influence" (Crossan & Apaydin, 2010, p. 1157). I used all available years in the SSCI database at the time of the research: from 1975 to 2015 (February 3).

I followed Crossan and Apaydin's (2010, pp. 1158–1160) process for the execution of the second stage of my systematic review, *conducting the review*. First, I *identified the initial selection criteria and created a list of keywords and search terms*. My initial search of the SSCI database was undertaken using the basic keywords “flow experience”; document type “article” and “review”; language “English”; subject area “business economics,” “psychology,” and “behavioral sciences.” The keywords were used as a selection criterion for the topic (title, keyword, or abstract) (Crossan & Apaydin, 2010), resulting in an initial sample of 1,789 papers that presented the basis for all future analyses.

Then I divided the initial sample of papers into *three groups of interest*. Group 1 consisted of reviews and meta-analyses. In order to identify reviews and meta-analyses, I restricted the search to papers with the following keywords: “flow experience,” and “review” or “meta” in the topic of the paper. This search yielded 132 papers. After reading the abstracts, only 10 papers remained in this group.

Further, Group 2, highly cited papers, was obtained by applying citation-based selection criteria (because citation-based analysis is widely used as a measure of paper quality) to the initial pool (Crossan & Apaydin, 2010). I identified 675 high-impact papers that had at least three citations per year (using 2014 as the base year). After reading the abstracts, this group was narrowed down to 98 papers that contributed to flow theory. Four reviews and meta-analyses were excluded from Group 2 because they were already included in Group 1, resulting in a total of 94 papers in Group 2.

Finally, in Group 3, recent papers, I isolated the most recent publications due to citation biases and lags (Crossan & Apaydin, 2010) and formed a group of the most recent papers (2012–February 2015). During this period, 464 papers were published, representing 25.5 percent of the initial sample of 1,789 papers. After reading the abstracts, 90 papers remained in this group. Eleven papers in this group were already included in highly cited or reviews and meta-analyses groups and were thus excluded from Group 3 in order to avoid intergroup duplication (Crossan & Apaydin, 2010).

The total sample from all three groups of papers was thus 183. In order to address the limitation linked to the publishing preference of particular disciplines, which may otherwise have led to overlooking some important contributions (Pittaway et al., 2004), I added 20 books and book chapters, as most of Csikszentmihalyi's (the father of the flow concept) work was published in books or book chapters. Thus, the final sample consisted of 203 papers, books, and book chapters (see Table 3).

Table 3: The number of papers per group

<i>Group</i>	<i>Initial pool</i>	<i>Filtered</i>	<i>Abstract analysis</i>	<i>Less duplicates</i>
<i>Group 1: Reviews and meta-analysis</i>	132	132	10	10
<i>Group 2: Highly cited papers</i>	1,789	675	98	94
<i>Group 3: Recent papers</i>	464	464	90	79
<i>Books and book chapters</i>				20
TOTAL				203

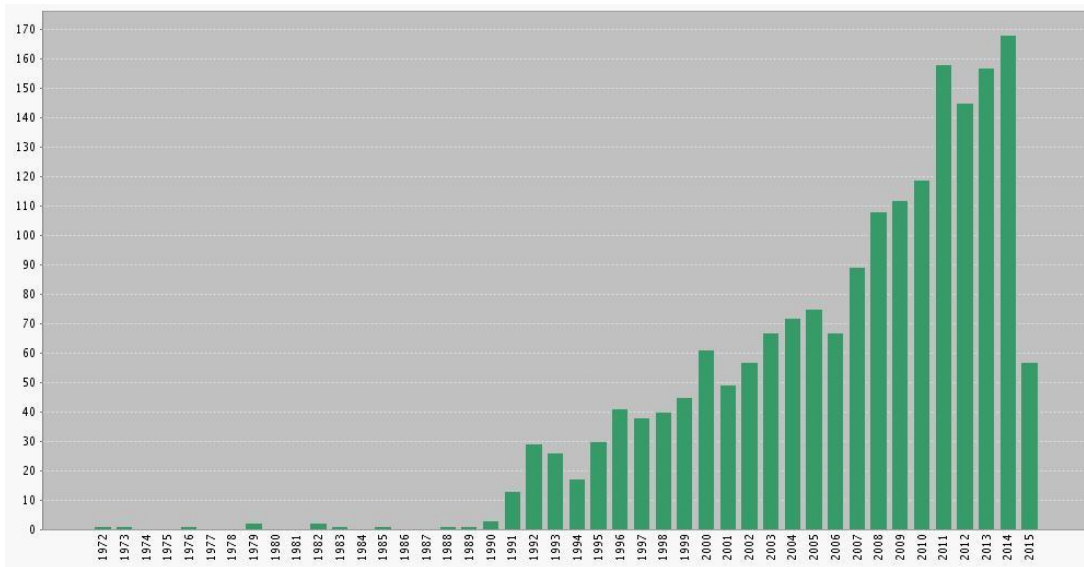
1.3.2 Results

After identifying the final sample of 203 studies, I repeatedly read each study in full in order to become familiar with the data. This was followed by a thematic analysis through which I first identified the main, recurrent, and most important issues or themes arising in each body of evidence and then grouped and summarized the findings from the included studies (Pope, Mays, & Popay, 2007). More specifically, I reviewed the included studies in order to identify the characteristics, antecedents, and consequences of flow experience and related constructs. In this section, I provide a descriptive analysis of my initial analysis and conclude by scoping out the theoretical field and providing a preliminary conceptual map of the existing research.

1.3.2.1 Descriptive analysis

The number of publications in the field of business economics, psychology, and behavioral sciences (as reported in SSCI's research area field) with flow experience as the topic began to rise after 1990 (see Figure 9). As attested by Figure X1, a relatively low amount of papers was published in the earlier years of the 1975–1990 period, whereas a relatively high amount of papers was published in the period from 2012 to 2014.

Figure 9: Number of flow-related articles per year in business, economics, psychology and behavioral journals



Source: ISI Web of Knowledge

Among the 203 papers, book chapters, and books included in my consideration set, the largest share was captured by empirical papers (91.8 percent), in which authors applied different study designs and methods, such as surveys, experiments, interviews, and experience sampling methods. Analysis of the results also revealed that the research on flow experience was fragmented, as it was spread across a number of disciplines and journals. More specifically, studies employed in the consideration set were published in 82 journals. Table 4 reveals the top six journals in terms of their coverage of the flow experience topic being reviewed.

Table 4: Top six journals publishing flow experience

<i>Source title</i>	<i>No. of Papers</i>	<i>% of Sample</i>
Computers in Human Behavior	27	14.8
Motivation and Emotion	9	4.9
Information & Management	7	3.8
Journal of Happiness Studies	6	3.3
the Journal of Psychology	5	2.7
Internet Research	5	2.7

Notes: These journals had the most articles covering flow experience as a topic.

In addition, the results showed that studies employed in the consideration set could be divided into seven broad disciplines: psychology (31.5 percent); sports and physical activity (6.9 percent); music (2.5 percent); education and learning (9.9 percent); consumer behavior and marketing (16.3 percent); human–computer interaction, games, and the Internet (18.2 percent); and work (14.7 percent) (see Table 5). Further, the majority of

papers in the work discipline were published in the last five years. Of the 30 papers from the work discipline, one paper was published in 1999, four papers in 2005, one in 2006, one in 2008, one in 2009, two in 2010, three in 2011, seven in 2012, three in 2013, six in 2014, and one in 2015 (as of February).

Table 5: Main disciplines, authors, and journals

<i>Discipline</i>	<i>Examples of Journals</i>	<i>No. of Papers</i>	<i>% of Sample</i>
<i>Psychology</i>	American Psychologist, Journal of Experimental Social Psychology, Personality and Individual Differences	64*	31.5
<i>Sport and physical activity</i>	Journal of Sport & Exercise Psychology, Psychology of Sport and Exercise, Journal of applied sport psychology	14	6.9
<i>Music</i>	Musicae Scientiae, Psychology of Music	5	2.5
<i>Education and learning</i>	Educational Psychology Review, Educational psychologist, Learning and Instruction, Journal of Educational Psychology, British Journal of Educational Psychology, European journal of psychology of education	20	9.9
<i>Consumer behavior and marketing</i>	<i>Journal of Marketing</i> , Psychology and Marketing, Journal of Advertising, Journal of the Academy of Marketing Science, <i>Information systems research</i> , <i>Journal of Consumer Research</i> , <i>Journal of Consumer Psychology</i> , <i>MIS quarterly</i>	33	16.3
<i>Human-computer interaction, games, and internet</i>	Computers in Human Behavior, Internet Research, International Journal of Human-Computer Studies	37	18.2
<i>Work</i>	Journal of vocational behavior, Human Relations, <i>Journal of applied Psychology</i> <i>Human resource management</i> , The Journal of Creative Behavior, <i>Journal of Business Ethics</i> , Journal of Occupational and Organizational Psychology, Stress and Health, Journal of Organizational Behavior	30	14.7

Notes: *20 books and book chapter were added to psychology discipline. Journals in italics are part of the top 45 Financial Times journals.

I examined the characteristics, antecedents, and consequences of flow experience in my consideration set. Analysis of the results revealed that 21.7 percent of the studies employed in the consideration set dealt primarily with the antecedents of flow experience, 37.4 percent of the studies dealt with the characteristic of flow experience, 30 percent of the studies dealt primarily with the consequences of flow experience, and 10.9 percent of the studies were difficult to categorize. As attested by Table 6, I identified 39 individual and environmental antecedents, among which only four individual (balance between task demand and ability, intrinsic motivation, achievement orientation, and passion) and four environmental (job resources, job characteristics, job dimensions, and leadership style) antecedents were applied or tested in the work environment. I also identified 40 consequences, among which only six were applied or tested in the work environment: performance, changes, adaptations, exploratory behavior, well-being, and creativity (Table 6). Further, among studies that primarily dealt with the characteristics of flow experience, 19 studies compared flow with related constructs (Table 6). Most commonly, flow experience was compared with intrinsic motivation (10 papers), followed by engagement (four papers), involvement (two papers), peak experience and performance (two papers), and thriving (one paper).

In summary, the review produced a clearer picture of the fragmented field and identified the characteristics, antecedents, and consequences of flow experience across various domains. Further, I identified five related constructs and found that only 14.7 percent of studies dealt with flow experience at work. In the next section I describe the synthesis stage of the review and thereby bring together the findings of the primary studies to provide an overall synthesis in order to answer the review questions.

Table 6: Antecedents, characteristics, and consequences of flow experience

FLOW EXPERIENCE		
ANTECEDENTS	CHARACTERISTICS	CONSEQUENCES
Individual	Main characteristics	
Authors	Authors	Authors
<ul style="list-style-type: none"> • Balance between challenges and skills 	<ul style="list-style-type: none"> • Flow experience 	<ul style="list-style-type: none"> • <i>Performance</i>
Engeser & Rheinberg, 2008; Fullagar, Knight, & Sovern, 2013; Keller & Bless, 2008; Johannes Keller, Bless, Blomann, & Kleinböhl, 2011; Wang & Hsu, 2014; Traves, Harré, & Overall, 2012	Csikszentmihalyi, 1975; 1988; 1990; 1997b; Csikszentmihalyi & Csikszentmihalyi, 1988; Engeser, 2012; Landhäußer & Keller, 2012; Fausto Massimini & Carli, 1988; Nakamura & Csikszentmihalyi, 2002; 2009	Admiraal, Huizenga, Akkerman, & Ten Dam, 2011; Demerouti, 2006; Eisenberger, et al., 2005; Engeser & Rheinberg, 2008; Fullagar, et al., 2013; Jackson, et al., 2001; Koehn, Morris, & Watt, 2013b; Landhäußer & Keller, 2012
<ul style="list-style-type: none"> • <i>Balance between task demand and ability</i> 	<ul style="list-style-type: none"> • Occurrence, controllability 	<ul style="list-style-type: none"> • <i>Changes, adaptations</i>
Kennedy, Miele, & Metcalfe, 2014	Swann, Keegan, Piggott, & Crust, 2012	Hosseini & Fattahi, 2014
<ul style="list-style-type: none"> • Rumination 	<ul style="list-style-type: none"> • <i>Frequency</i> 	<ul style="list-style-type: none"> • Positive affects
Carpentier, Mageau, & Vallerand, 2012	Asakawa, 2010; Llorens, Salanova, & Rodríguez, 2013	Chen, 2006; Rogatko, 2009; Zaman, et al., 2010
<ul style="list-style-type: none"> • <i>Intrinsic motivation</i> 	<ul style="list-style-type: none"> • <i>Patterns of flow</i> 	<ul style="list-style-type: none"> • Learning
Moneta, 2012; Waterman, Schwartz, & Conti, 2008	Ceja & Navarro, 2011; Klasen, Weber, Kircher, Mathiak, & Mathiak, 2012; Rodríguez-Sánchez, Schaufeli, Salanova, Cifre, & Sonnenschein, 2011	Admiraal, et al., 2011; Choi, Kim, & Kim, 2007; D'Mello, 2013; Ho & Kuo, 2010; Hou & Li, 2014; Kristjánsson, 2012; Meyer & Turner, 2006; Pearce, Ainley, & Howard, 2005; Wang & Hsu, 2014
<ul style="list-style-type: none"> • Neurocognitive mechanisms 	<ul style="list-style-type: none"> • Happiness 	<ul style="list-style-type: none"> • Information technology use
Dietrich, 2004	Csikszentmihalyi, 1999	Jung, Perez-Mira, & Wiley-Patton, 2009
<ul style="list-style-type: none"> • <i>Achievement-orientation</i> 	<ul style="list-style-type: none"> • Affective states 	<ul style="list-style-type: none"> • Social commerce intention
Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005	D'Mello & Graesser, 2012; D'Mello & Mills, 2014	Zhang, Lu, Gupta, & Zhao, 2014
<ul style="list-style-type: none"> • Preparation, confidence, arousal level 	<ul style="list-style-type: none"> • <i>Perceived skill and challenge at work</i> 	<ul style="list-style-type: none"> • Self-esteem, anxiety, coping strategies, commitment, future career
Jackson, 1995; Marin & Bhattacharya, 2013	Eisenberger, et al., 2005	Asakawa, 2010

(table continues)

(continued)

FLOW EXPERIENCE

ANTECEDENTS		CHARACTERISTICS		CONSEQUENCES	
Individual		Main characteristics			
	Authors		Authors		Authors
• <i>Passion</i>	Forest, Mageau, Sarrazin, & Morin, 2011	• State/trait components	Fullagar & Kelloway, 2009; Jackson, Kimiecik, Ford, & Marsh, 1998	• Risk awareness and behavior	Schüler & Nakamura, 2013
• Self-concept, psychological skills	Jackson, Thomas, Marsh, & Smethurst, 2001	• Positive psychology	Lubinski & Benbow, 2000; Csikszentmihalyi, 2000	• Online buying, pathological Internet use	Bridges & Florsheim, 2008
• Locus of control	Keller & Blomann, 2008	• Challenges	Abuhamdeh & Csikszentmihalyi, 2012b	• Continuance intention	Chang & Zhu, 2012; Choi & Kim, 2004
• Self-determined forms of motivation	Kowal & Fortier, 1999; Kowal & Fortier, 2000	• Autotelic personality	Busch, Hofer, Chasiotis, & Campos, 2013; Ross & Keiser, 2014	• Addiction	Chou & Ting, 2003; Lu & Wang, 2008; Wan & Chiou, 2006
• <i>Exhaustion</i>	Mäkikangas, et al., 2010	• Nonlinear changes	Ceja & Navarro, 2012	• <i>Energy</i>	Demerouti, Bakker, Sonnentag, & Fullagar, 2012
• Emotional intelligence	Marin & Bhattacharya, 2013	• Four-channel model	Lambert, Chapman, & Lurie, 2013	• Quality time	Hoffman & Novak, 1996
• Achievement motivation	Sokolowski, Schmalt, Langens, & Puca, 2000	• <i>Collective flow</i>	Salanova, Rodríguez-Sánchez, Schaufeli, & Cifre, 2014; Walker, 2010	• <i>Exploratory behavior</i>	Ghani & Deshpande, 1994; Zaman, et al., 2010
• Self-control	Khang, Kim, & Kim, 2013; Kuhnle, Hofer, & Kilian, 2012; Zaman, Anandarajan, & Dai, 2010	• Enjoyment	Hofmans, Gelens, & Theuns, 2014; Kimiecik & Harris, 1996	• Satisfaction	Bassi, et al., 2014; Chang & Zhu, 2012; Ding, et al., 2009; Hsu, et al., 2013; O'Casey & Carlson, 2010; Rouis, 2012; Zhou & Lu, 2011
• Personality traits	Bassi, Steca, Monzani, Greco, & Delle Fave, 2014; Mesurado & de Minzi, 2013; Moon, Kim, & Armstrong, 2014; Seger & Potts, 2012	• Psychophysiological processes	Peifer, Schulz, Schächinger, Baumann, & Antoni, 2014	• <i>Well-being</i>	Asakawa, 2010; Bassi, et al., 2014; Carpentier, et al., 2012; Ceja & Navarro, 2011; Fullagar & Kelloway, 2009; Steele & Fullagar, 2009
• Perceived usefulness	Hsu, Wu, & Chen, 2013	• Self-reported flow	Ortner, Weißkopf, & Koch, 2014	• Intention to return	Koufaris, 2003; Sánchez-Franco & Roldán, 2005
• Novelty	Liu & Shiue, 2014	• Flow proneness	Ullén et al., 2012	• Psychophysiological measures	de Manzano, Theorell, Harmat, & Ullén, 2010

(table continues)

(continued)

FLOW EXPERIENCE		
ANTECEDENTS	CHARACTERISTICS	CONSEQUENCES
Individual	Main characteristics	
Authors	Authors	Authors
<ul style="list-style-type: none"> • Time • Imagery intervention • Genetic factors • Achievement goals and temperament • Psychological needs • Losing/winning • Challenge • Trust • Person–artefact–task model 	<ul style="list-style-type: none"> • Flow in competition • Flow and technology • Flow in the Web environment • <i>Flow at work</i> • Flow and music • Flow and sport 	<ul style="list-style-type: none"> • Bio-cultural information • Acceptance • Burnout • Knowledge sharing and inter-employee helping • Brand attitudes and recognition • Consumer behavior • Time spent • Team performance • Loyalty
<p>Khang, et al., 2013</p> <p>Koehn, Morris, & Watt, 2014</p> <p>Mosing et al., 2012</p> <p>Oertig, Schüler, Brandstätter, & Augustine, 2014</p> <p>Schüler & Brandstätter, 2013; Schüler, Brandstätter, & Sheldon, 2013</p> <p>Steffen, Mau, & Schramm-Klein, 2013</p> <p>Trayes, Harré, & Overall, 2012; Liu & Shiue, 2014</p> <p>Zhou, 2012</p> <p>Finneran & Zhang, 2003</p>	<p>Koehn, Morris, & Watt, 2013a</p> <p>Pilke, 2004; Woszczyński, Roth, & Segars, 2002</p> <p>Chen, Wigand, & Nilan, 1999; Hoffman & Novak, 2009; Pace, 2004; Rettie, 2001; Skadberg & Kimmel, 2004; Thatcher, Wretschko, & Fridjhon, 2008; Faiola, Newlon, Pfaff, & Smyslova, 2013; Nah, Eschenbrenner, & DeWester, 2011</p> <p>Bassi & Fave, 2012; Debus, Sonnentag, Deutsch, & Nussbeck, 2014; Fullagar & Kelloway, 2013; Quinn, 2005</p> <p>Baker & MacDonald, 2013; Diaz, 2013; Wrigley & Emmerson, 2013</p> <p>Jackson, 1996; Jackson & Hanin, 2000</p>	<p>Massimini, Csikszentmihalyi, & Fave, 1988</p> <p>Hsu & Lu, 2004</p> <p>Lavigne, Forest, & Crevier-Braud, 2012</p> <p>Lin & Joe, 2012</p> <p>Vermeir, Kasakova, Tessitore, Cauberghe, & Slabbinck, 2014</p> <p>Cheon, 2013; Hsu, Chang, & Chen, 2012; Kim, Suh, & Lee, 2013; Kim & Han, 2014; Liu & Shiue, 2014; Mathwick & Rigdon, 2004; Schouten, McAlexander, & Koenig, 2007; Shang, Chen, & Shen, 2005; Van Noort, Voorveld, & van Reijmersdal, 2012; Wu, et al., 2014</p> <p>Lee, Aiken, & Hung, 2012</p> <p>Aubé, Brunelle, & Rousseau, 2014</p> <p>Hsu, et al., 2013; Zhou & Lu, 2011; O'Cass & Carlson, 2010</p>
Environmental	Scales	
<ul style="list-style-type: none"> • Interactivity 	<ul style="list-style-type: none"> • Flow state scale • <i>Work-related flow inventory</i> 	
<p>Sicilia, Ruiz, & Munuera, 2005; Wu, Li, & Chiu, 2014; Liu & Shiue, 2014</p>	<p>Jackson & Eklund, 2002; Jackson & Eklund, 2004; Jackson & Marsh, 1996; Kawabata, Mallett, & Jackson, 2008</p> <p>Bakker, 2008; Happell, Gaskin, & Platania-Phung, 2015</p>	

(table continues)

(continued)

FLOW EXPERIENCE

ANTECEDENTS		CHARACTERISTICS		CONSEQUENCES	
Environmental		Scales			
	Authors		Authors		Authors
• Goal-directed activities	Novak, Hoffman, & Duhachek, 2003	• ‘Short’ and ‘core’ flow scale	Martin & Jackson, 2008	• Loyalty	Hsu, et al., 2013; Zhou & Lu, 2011; O’Cass & Carlson, 2010
• Job characteristics	Demerouti, 2006; Fagerlind, Gustavsson, Johansson, & Ekberg, 2013; Ghani & Deshpande, 1994; Nielsen & Cleal, 2010; Steele & Fullagar, 2009	• Dispositional Flow Scale-2	Hamari & Koivisto, 2014; Procci, Singer, Levy, & Bowers, 2012; Rufi, Javaloy, Batista-Foguet, Solanas, & Páez, 2014	• Physical health	Steele & Fullagar, 2009
• Service system	Ding, Hu, Verma, & Wardell, 2009	• Measuring flow	Duckworth, Steen, & Seligman, 2005	• Aroused feelings, word-of-mouth behaviors	O’Cass & Carlson, 2010
• Job resources	Bakker, 2005; E. Demerouti, Bakker, & Fried, 2012; Mäkikangas, Bakker, Aunola, & Demerouti, 2010; Peters, Poutsma, Van der Heijden, Bakker, & Bruijn, 2014	Related constructs		• Creativity	Cseh, Phillips, & Pearson, 2015; Csikszentmihalyi, 1997a; Csikszentmihalyi & Wolfe, 2000; Sawyer, 2003; Sosik, et al., 1999; Yan, Davison, & Mo, 2013; Zaman, et al., 2010
• Job dimensions	Fullagar & Kelloway, 2009	• Engagement	Sherhoff, Csikszentmihalyi, Shneider, & Sherhoff, 2003; Wiebe, Lamb, Hardy, & Sharek, 2014; Agarwal & Karahanna, 2000; Duckworth, et al., 2005		
• Culture	Luna, Peracchio, & de Juan, 2002	• Involvement	Mollen & Wilson, 2010; Huang, 2006		
• Leadership style	Sosik, Kahai, & Avolio, 1999	• Peak experience, peak performance	Privette, 1983; Lubinski & Benbow, 2000		
• Interactivity	Sicilia, Ruiz, & Munuera, 2005; Wu, Li, & Chiu, 2014; Liu & Shiue, 2014	• Thriving at work	Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005		
		• Intrinsic motivation	Abuhamdeh & Csikszentmihalyi, 2012a; Besser-Jones, 2012; Kwak, Choi, & Lee, 2014; Rheinberg, 2008; Kimiecik & Harris, 1996; Keller & Bless, 2008; Kowal & Fortier, 1999; Shang, et al., 2005; Waterman, et al., 2008; Moneta, 2012		

Notes: Antecedents, characteristics, and consequences in italics and bold were studied in the work environment.

1.3.3 Synthesis

In this section I synthesize the results of the review and present them in four separate categories: (i) the characteristics of flow experience, (ii) the antecedents of flow experience, (iii) the consequences of flow experiences, and (iv) the relationship between flow experience and related constructs.

1.3.3.1 *Characteristics of flow experience*

Flow definitions. Systematic review revealed that a profusion of definitions of flow experience has been used across various domains. Table 7 lists the *definitions of flow experience* that were most often used in the studies employed in the systematic review. To begin, flow has become a central component within positive psychology (Seligman & Csikszentmihalyi, 2000) and is defined as a state when individuals become engaged in an activity that is challenging, controllable, and intrinsically motivating (Csikszentmihalyi, 1997b; Kawabata et al., 2008). Flow is also defined as a state of mind in which an individual feels cognitively efficient, deeply involved, highly motivated, and experiences a high level of enjoyment and happiness (Asakawa, 2004; Boyle et al., 2012; Csikszentmihalyi, 1975; Moneta & Csikszentmihalyi, 1996). In addition, flow can be defined as a state of intense engagement that is expected to be heightened when individuals see value in an activity and have clear goals, an appropriate balance between challenges and skills, and immediate feedback on actions and, thus, have some control over the outcome of the activity (Csikszentmihalyi, 1990; Pekrun, Goetz, Daniels, Stupnisky, & Perry, 2010). One of the paradoxes of flow is that individuals have to be in control of the activity to experience flow, yet they should not try to consciously control what they are doing (Csikszentmihalyi, 1999).

Although researchers have provided different definitions of the experience of flow, systematic review revealed several commonly reported **characteristics** of flow. Central to flow is the idea that there should be a balance between the skills an individual possesses and the challenges presented by an activity (Csikszentmihalyi, 1990). Flow experience should also involve a high degree of concentration, a sense of self-control, clear goals, and direct and immediate feedback (Boyle et al., 2012; Csikszentmihalyi, 1990; Hsu & Lu, 2004; Mäkikangas, Bakker, Aunola, & Demerouti, 2010). Further, enjoyment in the activity, curiosity, intrinsic motivation to continue doing it, and total immersion in the activity are also central characteristics of the flow experience (Bakker, 2005; Csikszentmihalyi, 1975; Hsu & Lu, 2004; Mäkikangas et al., 2010; Malone, 1980). In addition, even though flow requires serious energy output, it usually provides no conventional rewards (Strümpfer, 2003). Thus, one of the important characteristics of flow is that individuals seek flow primarily for itself, because they enjoy it (Privette, 1983).

Table 7: Taxonomy of the definitions of flow

<i>Author</i>	<i>Definition</i>
Csikszentmihalyi (1975)	Flow is defined as “the holistic experience that people feel when they act with total involvement” (p. 9).
Csikszentmihalyi (1975)	Flow is characterized by “a narrowing of the focus of awareness, so that irrelevant perceptions and thoughts are filtered out, by loss of self-consciousness, by responsiveness to clear goals and unambiguous feedback, and by a sense of control over the environment” (p. 72).
Csikszentmihalyi (1990)	Flow is “the state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it” (p. 4).
Clarke & Haworth (1994)	Flow indicates “an experience that is totally satisfying beyond a sense of having fun” (p. 511).
Csikszentmihalyi (1996)	Flow can be described as the feeling when things are “going well as an almost automatic, effortless, yet highly focused state of consciousness” (p. 110).
Moneta & Csikszentmihalyi (1996)	“Flow is defined as a psychological state in which the person feels simultaneously cognitively efficient, motivated, and happy” (p. 277).
Hoffman & Novak (1996)	Flow experience is “the state occurring during network navigation, which is (1) characterized by a seamless sequence of responses facilitated by machine interactivity, (2) intrinsically enjoyable, (3) accompanied by a loss of self-consciousness, and (4) self-reinforcing” (p. 57).
Csikszentmihalyi (1999)	Flow is a “particular kind of experience that is so engrossing and enjoyable [that it is] worth doing for its own sake even though it may have no consequences outside itself” (p. 824).
Dietrich (2004)	The flow state is a commonly reported phenomenon when individuals become deeply focused on a task and pursue it with such passion that all else disappears, including a sense of time or the worry of failure.

(table continues)

(continued)

<i>Author</i>	<i>Definition</i>
Asakawa (2004)	Flow is “the optimal state of mind in which an individual feels cognitively efficient, deeply involved, and highly motivated and also experiences a high level of enjoyment” (p. 124).
Quinn (2005)	Flow is “the experience of temporally merging one’s situation awareness with the automatic application of activity-relevant knowledge and skills” (p. 615) in which individuals “apply the necessary knowledge and skills to move a situation toward desirable ends” (p. 615).
Bakker (2008)	“Flow is a state of consciousness where people become totally immersed in an activity and enjoy it intensely” (p. 400).
Fullagar & Kelloway (2009)	“Flow as a state is defined as a psychological state of mind that is transitory, existing at a given moment in time and at a particular level of intensity, and experienced while performing a specific activity” (p. 597).
Asakawa (2010)	“Flow may be considered a fundamental and dynamic factor which shapes how people feel, behave, and think in their daily lives and for their future” (p. 207)
Swann et al. (2012)	Flow involves “a sense of everything coming together, or clicking into place, even in challenging situations” (p. 807).
Lin and Joe (2012)	“Flow is the holistic sensation that employees feel when they act with total immersion and engagement, facilitating individuals’ reciprocal activities such as knowledge sharing and interemployee helping” (p. 439).
D’Mello & Mills (2014)	Flow is “a state of immersion with a task such that concentration is intense, attention is focused, involvement is complete, and there is mild positive affect” (p. 142).

Flow—a state and a trait construct. According to Fullagar and Kelloway (2009), state constructs are dynamic, change across time and situation, can be manipulated, and are the result of an interaction between personal dispositions and the environment (when assessing a state construct, we rate a state of mind “today” or “now”), whereas traits tend to be to stable across time and place and are less amenable to manipulation (when measuring traits, we rate a state of mind in “general”). Flow can be defined as a state and as a trait construct, but flow is predominantly a situational state of mind rather than a trait or disposition (Fullagar & Kelloway, 2009; Jackson & Eklund, 2004). Fullagar, Knight, and Sovern

(2013) found that most variation in flow construct is due to situational characteristics and thereby provided support that flow is a situational state rather than a trait. Specifically, Pearce, Ainley, and Howard (2005) argued that flow is a changeable state rather than an overall state. This is so because flow may appear only briefly in the process of an activity (Wang & Hsu, 2014).

Further, some authors have argued that flow is not an all-or-nothing state, but different levels of flow can occur, and thus, flow exists on a continuum ranging from extremely low to extremely high complexity (Csikszentmihalyi, 1975; Csikszentmihalyi & Csikszentmihalyi, 1988; Pearce et al., 2005). According to Privette (1983), flow experience ranges from repetitive, almost automatic behavior that provides a small increment of enjoyment to very complex behavior. However, flow can be also defined as a trait, since “the autotelic personality in that certain individuals may have a psychological characteristics that make them more prone to the experience of flow regardless of the situation” (Fullagar & Kelloway, 2009, p. 597).

Occurrence of flow experience. Flow is a universal phenomenon that can be experienced by anyone, regardless of age, gender, ethnicity, socioeconomic level, or culture (Asakawa, 2010; Clarke & Haworth, 1994; Csikszentmihalyi & Csikszentmihalyi, 1988; Mesurado & de Minzi, 2013). According to Csikszentmihalyi (1996), any activity (work or leisure, mental or physical) can produce flow as long as it is a challenging task that is perceived as valuable and demands intense concentration and commitment, contains clear goals, provides immediate feedback, and is perfectly matched to the person’s skill level (Csikszentmihalyi, 1990; Dietrich, 2004; Privette, 1983). Even though individuals can derive flow from whatever they do (Csikszentmihalyi, 1999; Hsu, Chang, & Chen, 2012), “there is a degree of uncertainty as to when flow states occur” (Chavez, 2008, p. 71). However, it is clear that the same activity may not induce flow experience for everybody, and the same individual does not experience flow by performing all possible activities (Finneran & Zhang, 2003). Engeser and Rheinberg (2008) have argued that the flow model “might be only applicable under certain circumstances or for certain kinds of activity” (p. 159). Quinn (2005) also found that “the degree to which people experience flow and the relationships between flow elements vary according to the types of jobs and tasks that people perform” (p. 632). Since individuals have to invest time and energy to experience flow, it is more likely that they experience flow more often during their work than during their free-time activities (Bakker, 2005; Csikszentmihalyi, 1997b; Pilke, 2004). Further, flow experience may also vary due to cultural influences (Asakawa, 2010; Delle Fave, Massimini, & Bassi, 2010).

Researchers have also found that the frequency and intensity of flow experience varies across individuals (Asakawa, 2010; Csikszentmihalyi & Csikszentmihalyi, 1988; Marin & Bhattacharya, 2013), depending on both individual traits and situational variables

(Asakawa, 2010; Csikszentmihalyi & Csikszentmihalyi, 1988; Ross & Keiser, 2014; Ullén et al., 2012). The flow theory emphasizes the role of context and, thereby, explains behavior in terms of situational variables and, in particular, the meaning of a situation to the individual (Ghani & Deshpande, 1994). Namely, situational variables, such as clear-cut goals, instantaneous feedback, and perceived balance between a given task and ability to master this task (Csikszentmihalyi, 1990), increase the likelihood of experiencing flow (Busch, Hofer, Chasiotis, & Campos, 2013). Further, within-person characteristics such as action orientation (Keller & Bless, 2008) and subjective perception of the importance of an activity (Engeser & Rheinberg, 2008) also affect how readily or strongly flow is experienced (Busch et al., 2013). Flow also depends on “the degree to which specific personality factors fit with the structural requirements of the given task” (Keller & Bless, 2008, p. 207), and it is more likely to occur when an individual’s personality matches with the characteristics of the situation (Keller & Bless, 2008). Thus, individuals are more likely to experience flow when they freely choose activities because such activities allow self-expression and cultivation of personal skills (Bassi & Delle Fave, 2012b; Walker, 2010).

Further, flow seems to result from the interaction of internal states (e.g., personal conditions such as focus, arousal, motivation, confidence, self-efficacy beliefs, thoughts, and emotions), external factors (e.g., environmental and situational conditions such as clear goals and immediate feedback), and behavioral factors (e.g., preparation) (Salanova, Bakker, & Llorens, 2006; Swann et al., 2012). Thus, flow occurs and behaves in a chaotic way (Ceja & Navarro, 2011) since it is a product of the interaction between individuals and their environment at a specific moment in time (Nakamura & Csikszentmihalyi, 2002). Further, even though flow experience can be sustained for long periods of time, this is usually not the case; thus, flow is believed to have a short-term nature (Bakker, 2008; Quinn, 2005).

Experiencing flow. When experiencing flow, individuals focus their attention on a specific activity to the point of becoming totally absorbed in it. Their awareness is narrowed down to the activity itself; they feel in control of their environment and thus center their attention on a limited stimulus field and exclude all other thoughts and emotions (Carpentier, Mageau, & Vallerand, 2012; Csikszentmihalyi, 1975; Csikszentmihalyi & Wolfe, 2000; Dietrich, 2004; C. L. Hsu & Lu, 2004). When experiencing flow, individuals become so involved (i.e., physically, mentally, or emotionally) in the activity that nothing else seems to matter at that moment (Csikszentmihalyi & Rathunde, 1993) and no surplus attention is left to monitor any stimuli (e.g., thoughts or perceptions) irrelevant to the task at hand (Chen, 2006; Chen et al., 1999; Csikszentmihalyi, 1999). Thus, individuals experience a sense of complete mastery over their environment (Carpentier et al., 2012). This is so because an individual experiences flow as a “unified flowing from one moment to the next, in which he is in control of his actions, and in which there is little distinction between self and environment, between stimulus and response, or between past, present and future”

(Csikszentmihalyi, 1975, p. 36). When experiencing flow, individuals are not worried or anxious about their lack of control over the situation (Luna, Peracchio, & de Juan, 2002).

Experiencing flow continually. Further, experiencing flow is a psychological state, reached during engagement in activities (Novak et al., 2000), that leads to personal growth (Csikszentmihalyi, 1988b, 1990; Kawabata et al., 2008; Seligman & Csikszentmihalyi, 2000). Namely, flow-inducing activities push individuals to perform at their maximum potential, and this typically elicits positive reactions (Burris & Lai, 2012). Further, flow is fun (Privette, 1983) and thereby so satisfying, valuable, and positive that individuals want to repeat the activity continually in order to continually experience flow and, thereby, meet greater challenges (Csikszentmihalyi, 1988a; Jackson & Csikszentmihalyi, 1999; Marin & Bhattacharya, 2013). This is so because when experiencing flow individuals function at their fullest capacity and are willing to spend much of their energy on an activity that has no external payback yet provides such high enjoyment and satisfaction (Finneran & Zhang, 2003; Nakamura & Csikszentmihalyi, 2002) that individuals want to repeat the activity continually (Csikszentmihalyi, 1988a). In order to continually experience flow, individuals have to constantly seek to master new challenges and develop greater levels of skills since once a challenge is mastered, individuals have to identify and engage in more creative and complex challenges to create an ideal match for their skills (Admiraal, Huizenga, Akkerman, & Ten Dam, 2011; Fausto Massimini & Delle Fave, 2000; Shernoff, Csikszentmihalyi, Shneider, & Shernoff, 2003). “Flow thereby invokes a growth principle, in which a more complex set of capacities is sought after and developed” (Shernoff et al., 2003, p. 161). In addition, according to Admiraal, Huizenga, Akkerman, and Ten Dam (2011), “interest in an activity is a fundamental aspect of flow experiences, setting the foundation for continuing motivation and subsequent learning” (p. 1186).

Team-level flow. Traditionally flow is characterized as a strictly individual, not a team, phenomenon; however, researchers have noted that some of the most enjoyable flow experiences occur during social interactions, thus suggesting that flow experience could also happen at the team level (Bakker, Oerlemans, Demerouti, Slot, & Ali, 2011; Kowal & Fortier, 1999; Salanova, Rodríguez-Sánchez, Schaufeli, & Cifre, 2014; Walker, 2010). Sawyer (2003) described collective flow as “a collective state that occurs when a group is performing at the peak of its abilities” (p. 167)

Although flow seems to be more probable in an achievement context, it can also be experienced in an affiliation context such as in the interaction with friends, coworkers, or family (Csikszentmihalyi, 1990; Csikszentmihalyi & LeFevre, 1989; Schüler & Brandstätter, 2013). For example, Kowal and Fortier (1999) found that swimmers who felt connected with teammates reported high instances of flow. In addition, Walker (2010) found that social flow is more enjoyable than solitary flow. Aubé et al. (2014) also argued that in social situations flow tends to spread from one individual to another. Further,

Bakker et al. (2011) proposed that team-level flow can be experienced when the same team shares some common aspects of experience and when team members share similar goals and are thereby highly dependent on each other. Still, Quinn (2005) argued that flow is believed to be a momentary experience, which may or may not be aggregated to a team or organizational level.

Dark side of flow. Research has focused almost exclusively on exploring the positive side of flow (Schüler & Nakamura, 2013). However, Csikszentmihalyi himself postulated the potential negative side of flow by defining flow as a state “in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at great cost, for the sheer sake of doing it” (Csikszentmihalyi, 1990, p. 4). For example, Liu and Shiue (2014) argued that game players are often willing to pay a high price to maintain the flow experience. Moreover, individuals can also experience flow when engaged in antisocial activities (e.g., crime and warfare) (Keller & Bless, 2008) or destructive, addictive, or wasteful activities (Csikszentmihalyi, 1999). Nakamura and Csikszentmihalyi (2002) also acknowledged that individuals can also seek flow in activities that are neutral or even destructive to the self and/or work/culture. Further, flow also occurs during activities that involve high levels of risk and expertise (Csikszentmihalyi, 1990). Namely, high levels of flow were found in activities performed illegally, with a risk of being caught by authorities (e.g., graffiti spraying) (Peifer, Schulz, Schächinger, Baumann, & Antoni, 2014; Rheinberg & Manig, 2003).

Further, Csikszentmihalyi acknowledged the “addictive propensity” of flow and the attendant risk of becoming dependent on it (1975, p. 139). Boyle et al. (2012) also suggested that there is a fine dividing line between enjoyment and addiction. In particular, individuals who enjoy flow during an activity may develop a tendency to repeat the activity and may thus activate addiction through repetition of this favorite activity (Chou & Ting, 2003; Trayer, Harré, & Overall, 2012). Chou and Ting (2003) suggested that addiction behavior is formed when behavioral repetition triggers flow. Thus, “enjoyable activities that produce flow have a potential negative aspect: while they are capable of improving the quality of existence by creating order in the mind, they can become addictive, at which point the self becomes captive to a certain kind of order and is then unwilling to cope with the ambiguities of life” (Csikszentmihalyi, 1990, p. 62). However, it is important to note that “the negative impact on the social environment of an addiction to flow is less severe than that of an addiction to material rewards” (Csikszentmihalyi, 1999, p. 826).

Furthermore, an individual may also enjoy an activity so much that everything else pales by comparison, and he/she then “becomes dependent on a very narrow range of opportunities for action while neglecting to develop skills that would open up a much broader arena for enjoyment later” (Csikszentmihalyi, 1999, p. 826). For example,

Kennedy, Miele, and Metcalfe (2014) argued that individuals sometimes ignore the needs for sleep and food when experiencing flow.

Flow model. Systematic review revealed that some debate exists as to how many “channels” of experience, or psychological states, should be used to represent the flow model and how these channels should be labeled (Engeser & Rheinberg, 2008; Hoffman & Novak, 1996). Authors have proposed 3-channel (Csikszentmihalyi, 1975), 4-channel (Csikszentmihalyi, 1988b), 8-channel (Csikszentmihalyi & Nakamura, 1989), 9-channel (Clarke & Haworth, 1994), and 16-channel (Massimini & Carli, 1988) models. However, in all models, the relationship between challenges and skills is used to determine which channel is experienced during task engagement (Finneran & Zhang, 2003; Lambert et al., 2013). Namely, when faced with challenges, individuals assess how capable they are at coping with the challenges (Chen et al., 1999).

In order to experience flow, a balance between a high level of perceived challenges in a given situation and a high level of skills is required (Chen et al., 1999; Csikszentmihalyi, 1991; Csikszentmihalyi & LeFevre, 1989; Keller & Bless, 2008; Keller & Blomann, 2008). When balance between challenges and skills is disrupted, anxiety (i.e., high challenges, low skills), boredom (i.e., low challenges, high skills), or apathy (i.e., low challenges, low skills) is likely to be experienced (Csikszentmihalyi, 1997b). Anxiety refers to a state where the given challenges are beyond the individual’s skill level, thus demanding more than the individual can handle (Chen et al., 1999; Csikszentmihalyi, 1975). On the other hand, if the challenges are lower than the individual’s skill level, a state of boredom ensues (Chen et al., 1999; Csikszentmihalyi, 1975). Further, if challenges and skills are perfectly balanced but challenges are not perceived as high and an individual’s skills are underutilized, the individual might feel relaxation or apathy (Chen et al., 1999; Csikszentmihalyi, 1988a).

It is important to note that flow does not depend on an objective view of the posed challenges nor on an objective view of the skills an individual has (Chen et al., 1999), but it is determined by the individual’s perceived state of how challenges and skills match each other (Csikszentmihalyi, 1975; Pace, 2004). Thus, “the same activity may make an individual feel anxious one time, bored the next, and in a state of flow immediately afterward” (Chen et al., 1999, p. 588). Further, Engeser and Rheinberg (2008) argued that the perceived importance of an activity plays an important role in determining the proper balance between challenges and skills, which leads to flow experience. If an activity is perceived as unimportant, with no further important consequences, the balance between challenges and skills should lead to flow experience, whereas for an activity with very important consequences, flow should only be experienced when skills exceed challenges (Engeser & Rheinberg, 2008).

1.3.3.1.1 Most commonly reported elements of flow

As noted above, researchers have provided different definitions of flow experience; however, flow can be characterized by the several of the most commonly reported components. In what follows, I briefly describe these components. One of the most commonly reported components of flow is a *balance between skills and challenges*. When a balance between the perception of one's skills and the perception of the difficulty of an activity is achieved, individuals feel both challenged and confident that everything is under control (Csikszentmihalyi, 1975; Fullagar et al., 2013; Keller & Bless, 2008; Nakamura & Csikszentmihalyi, 2009). Further, when skills and challenges are balanced, the individual "feels more active, alert, concentrated, happy, satisfied and creative, regardless of the task being performed" (Csikszentmihalyi & LeFevre, 1989, p. 816), whereas other combinations of skills and challenges produce less favorable experiences. Some authors have argued that challenges must be at a moderate to high level (Fullagar et al., 2013; Massimini & Carli, 1988) so that they "stretch but do not overmatch existing skills" (Nakamura & Csikszentmihalyi, 2009, p. 195). Flow does not focus on performance per se but rather on the experience that occurs at a deeper personal level and thereby draws on the affective as well as the cognitive aspects of humans (de Manzano, Theorell, Harmat, & Ullén, 2010; Ding, Hu, Verma, & Wardell, 2009; Finneran & Zhang, 2003; Huang, 2006). Flow experience is cognitive because it stems from individuals' perception of the challenges and skills in given situations (Csikszentmihalyi, 1975), and when individuals are confronted by challenges at the limit of their skills, they must stretch their capabilities with the likelihood of learning new skills (Csikszentmihalyi & LeFevre, 1989).

The second commonly reported component is *feedback*. When in flow, individuals are able to get immediate feedback on what they are doing because the activity either provides information about the performance or because internalized standards make it possible to know whether one's actions meet the standards (Csikszentmihalyi, 1999). Thus, the activity that provides flow has coherence, contains no contradictory demands, and provides clear, unambiguous feedback (Csikszentmihalyi, 1990; Fullagar et al., 2013; Nakamura & Csikszentmihalyi, 2009).

The third component is *clarity*. When in flow, individuals know very clearly what they have to do moment by moment. The activity seems to be guided by an inner logic. This is so either because the activity requires it or because the individual sets clear and proximal goals every step of the way (Csikszentmihalyi, 1999; Fullagar et al., 2013; Nakamura & Csikszentmihalyi, 2009).

Fourth, *absorption*—a sense of deep involvement and total concentration (Bakker, 2005; Csikszentmihalyi, 1990; Ghani & Deshpande, 1994; Rodríguez-Sánchez, Schaufeli, Salanova, Cifre, & Sonnenschein, 2011)—is considered a cognitive component of flow

experience (Rodríguez-Sánchez et al., 2011). Absorption is high when individuals perform working activities (Rodríguez-Sánchez et al., 2011). When in flow, individuals experience an absolute absorption in or a high degree of concentration on the activity due to undivided attention to a limited stimulus field (Bakker, 2008; Csikszentmihalyi, 1975; Engeser & Rheinberg, 2008).

Further, *enjoyment*—the positive feeling of pleasure while engaged in an activity (Bakker, 2005; Csikszentmihalyi, 1990; Ghani & Deshpande, 1994; Rodríguez-Sánchez et al., 2011), which is high during nonworking activities—is the most commonly reported *emotional component* of flow (Rodríguez-Sánchez et al., 2011).

In addition, the *motivational component* includes intrinsic motivation (Bakker, 2005; Csikszentmihalyi, 1990)—the interest in performing an activity for its own sake and not because of external demands or pressures—the subjective experience of time distortion, and full focus on the activity so that individuals forget everything else around them (Demerouti, 2006; Rodríguez-Sánchez et al., 2011).

1.3.3.1.2 Dimensions of flow

Systematic review revealed that flow is a complex concept that is difficult to operationalize, and research often measures it through multiple dimensions (Faiola, Newlon, Pfaff, & Smyslova, 2013; Ghani & Deshpande, 1994; Hsu & Lu, 2004; Lu, Zhou, & Wang, 2009; Webster et al., 1993). Analysis of the results also revealed researchers have used varying numbers of dimensions to measure flow experience (Ho & Kuo, 2010). For example, Csikszentmihalyi (1975) originally identified four flow components: control, attention, curiosity, and intrinsic interest. Trevino and Webster (1992) also categorized flow into four dimensions: feeling in control, focusing attention on an activity, feeling curious, and being intrinsically interested. Hoffman and Novak (1996) also classified flow into four dimensions: skill and control, challenge and arousal, interactivity and telepresence, and attention. Wu and Chang (2005) divided flow into two dimensions: enjoyment and time distortion. According to Bakker (2005, 2008) there are three related dimensions of flow that can be distinguished theoretically and empirically: absorption, enjoyment, and intrinsic motivation. Later on, Csikszentmihalyi (1990, 2000) categorized flow into nine dimensions that are proposed to combine and interact to make up the flow experience: a balance between challenges and skills, the merger of action and awareness, clear goals, immediate feedback, total concentration, sense of control, loss of self-consciousness, time transformation, and autotelic experience.

1.3.3.1.3 Csikszentmihalyi's nine dimensions of flow

The flow theory was developed by Csikszentmihalyi (1975). As noted above, his conceptual framework offers a multidimensional model, incorporating nine fundamental dimensions of flow experience (Csikszentmihalyi, 1990, 1997b). Research has confirmed these nine flow dimensions (Csikszentmihalyi, 1990; Jackson, 1996; Martin & Jackson, 2008) and their construct validity (Jackson & Marsh, 1996). Flow is not an all-or-nothing experience; rather, individuals experience flow on a continuum from low to high levels, which may depend upon the degree to which individuals experience the nine flow dimensions (Baker & MacDonald, 2013; Csikszentmihalyi & Csikszentmihalyi, 1988). In what follows, I briefly describe the main characteristics of each dimension.

The first dimension, *a balance between challenges and skills*, refers to the correspondence between the skills required to perform an activity and the challenges of this activity (Aubé et al., 2014; Csikszentmihalyi, 1975, 1990). In other words, personal skills should be well suited to the given challenge (Chen et al., 1999). To experience flow, an individual must possess skills that are equal or almost equal to the challenge (Aubé et al., 2014). When challenges and skills are balanced, individuals feel both challenged and confident that everything is under control (Engeser & Rheinberg, 2008) and may thereby experience one of several characteristics of flow (Ceja & Navarro, 2011). Thus, balance between challenges and skills should lead to flow (Csikszentmihalyi, 1975). However, a balance between challenges and skills is a necessary but not in itself sufficient precondition for the flow experience (Nakamura & Csikszentmihalyi, 2002). In other words, flow is not always experienced when this balance is present (Engeser & Rheinberg, 2008).

The second dimension, *the merger of action and awareness*, describes involvement in an activity that is so deep that individuals are focused only on what they are doing such that their actions feel spontaneous and almost automatic (Csikszentmihalyi, 1996, 1997b, 2000). It refers to the fact that individuals become completely absorbed in what they are doing and there is little awareness of the self, other than what one is doing; who they are and what they are doing become one (Aubé et al., 2014; Csikszentmihalyi, 1990; Fullagar & Kelloway, 2009; Procci, Singer, Levy, & Bowers, 2012; Swann et al., 2012).

Clear goals (the third dimension) are also considered necessary to achieve a flow state (Csikszentmihalyi, 1990). In order to experience flow, individuals have to have a clear understanding of what needs to be done, and although an activity may ultimately advance toward a higher goal, it is driven by the progressive realization of the next small goal (Csikszentmihalyi, 1996; Jackson & Marsh, 1996). Clear goals refer to a feeling of certainty about what one is going to do and must be specific and difficult enough to pose a challenge (Csikszentmihalyi, 1990, 1999, 2000). According to Procci, Singer, Levy, and Bowers (2012), clear goals provide structure and drive activity because when individuals

have clear goals they have the knowledge of overall objectives and they know what to strive for.

The fourth dimension, *immediate feedback*, is closely related to clear goals but refers to the fact that the activity being performed allows the individual to receive clear and immediate feedback on his or her performance (Csikszentmihalyi, 1996; Jackson & Marsh, 1996). Due to the lack of higher-order representations, the event is not subjected to detailed analysis, so feedback is binary and immediate (Csikszentmihalyi, 1996). Thus, individuals have immediate and clear feedback about their actions (Csikszentmihalyi, 1997b, 2000), allowing them to know whether or not they are achieving their goals (Rogatko, 2009). Specifically, the activity itself provides clear, immediate, and unambiguous feedback that informs individuals about their progress toward goals (how successfully they are completing the task) or tells them how to adjust in order to do so (Finneran & Zhang, 2003; Fullagar & Kelloway, 2009; Procci et al., 2012; Swann et al., 2012). Immediate feedback is needed to sustain flow and can be derived from one's own actions or from environmental cues (Baker & MacDonald, 2013).

Total concentration (the fifth dimension) refers to a feeling of being totally focused on the task at hand, with no extraneous or distracting thoughts or factors (Aubé et al., 2014; Csikszentmihalyi, 1990, 1997a; Swann et al., 2012). When experiencing flow, the involvement in the activity is so demanding that there is no surplus attention left for stimuli irrelevant to the activity (Strümpfer, 2003). According to Fullagar and Kelloway (2009), total concentration is the high degree of involvement with and focus on an activity when attention and energies are exquisitely focused on the task and there is an absence of distraction. Total concentration defines the flow state (Procci et al., 2012) because, when in flow, individuals are focused, totally involved in what they are doing, and easily tune out all distractions (Baker & MacDonald, 2013; Procci et al., 2012). Thus, no effort is needed to attain and consequently maintain this concentration (Procci et al., 2012).

Further, a *sense of control* (the sixth dimension) is another important ingredient for flow (Csikszentmihalyi, 1988a; Finneran & Zhang, 2003). It corresponds to the sense that one can deal with the situation because one knows how to respond to whatever happens next (Csikszentmihalyi, 1997b, 2000; Csikszentmihalyi & Csikszentmihalyi, 1992). In other words, it reflects how much control individuals feel in completing a task (Csikszentmihalyi, 1988a). Individuals in flow report they have a feeling of quasi invulnerability in which the possibility of failing is not present in their mind (Aubé et al., 2014). When in flow, individuals feel in control of their environment because they possess the skills needed to overcome the challenge (Rogatko, 2009); thereby, individuals experience a sense of empowerment with no thoughts of failure (Baker & MacDonald, 2013; Procci et al., 2012). However, as soon as individuals' attention shifts to trying to maintain control, they lose the sense of flow (Fullagar & Kelloway, 2009). Further, the

sense of control lasts a short time, as without challenge, individuals become bored (Procci et al., 2012).

Loss of self-consciousness, the seventh dimension of flow, indicates a lack of concern or worry about the self (Csikszentmihalyi, 1990, 1997a) because individuals' awareness of their self and social evaluation is decreased (Swann et al., 2012). An individual becomes one with the activity and is not concerned with the judgement of others because all concern for self disappears (Aubé et al., 2014; Fullagar & Kelloway, 2009).

The eighth dimension of flow is *time transformation*: the sense that the way time passes is disordered (Csikszentmihalyi, 1990, 1991, 1997b). Specifically, time transformation corresponds to the fact that the notion of time is altered when individuals experience flow; depending on the activity being performed, time may seem to pass more or less quickly (Aubé et al., 2014). An altered sense of time enables an individual to attend to a task for as long as is needed (Baker & MacDonald, 2013).

Finally, the ninth dimension of flow is *autotelic experience*, described as “a common feeling among all people that experience flow when their attention is focused on a limited stimulus field” (Faiola et al., 2013, p. 1114). Autotelic, literally meaning self-goal, indicates that individuals are more focused on the process of the activity than on the end result or any extrinsic reward (Csikszentmihalyi, 1988a). Thus, autotelic experience is an induced state of positive affect that can make the activity intrinsically motivating and rewarding; that is, performing the task becomes enjoyable and a goal in itself (Asakawa, 2010; Aubé et al., 2014; de Manzano et al., 2010). This experience is the end goal of the flow state and is the result of an activity or situation that produces its own intrinsic motivation, rewards, or incentives, without any outside goals or rewards (Csikszentmihalyi, 1990; Procci et al., 2012). Autotelic experience explains why individuals want to engage in the task again: because it is intrinsically motivating and pleasurable to do so (Csikszentmihalyi, 1990; Procci et al., 2012).

Systematic review revealed that the nine dimensions proposed by Csikszentmihalyi (1990) can be categorized into **three stages**: First, the *antecedents stage* describes the qualifying factors of the activity itself for reaching the flow state and the prerequisites for provoking the emergence of the optimal experience (Chen et al., 1999). In other words, it describes the conditions that are essential for flow to occur and includes a balance between challenges and skills, clear goals, and immediate feedback (Chen et al., 1999; Csikszentmihalyi, 2000; Swann et al., 2012). Further, the *experience stage* describes those characteristics that are perceived during the flow state, including total concentration, the merger of action and awareness, loss of self-consciousness, and a sense of control (Chen et al., 1999; Csikszentmihalyi, 2000; Swann et al., 2012). The third stage, *effects*, presents the end result of being in flow and describes an individual's inner experience, focusing on the

effects after entering the flow state (Chen et al., 1999). This stage includes time transformation and autotelic experience (Carpentier et al., 2012; Chen et al., 1999; Csikszentmihalyi, 1990).

1.3.3.1.4 Flow at work

Several studies have shown that individuals more often experience flow during their work than during free/nonwork time (Csikszentmihalyi & LeFevre, 1989; Delle Fave & Massimini, 1988; Rodríguez-Sánchez et al., 2011). Csikszentmihalyi and LeFevre (1989) found that “most leisure time is filled with activities that do not make people feel happy or strong” (p. 821) and that one’s job is a major source of flow for adults. This is not surprising given that many of the precursors to flow are more likely to be found in work activities (Fullagar & Kelloway, 2009). Thus, I also analyzed the papers included in the systematic review through the lens of flow at work. In what follows, I summarize the key characteristics of flow at work.

Flow at work can be characterized by emotional components such as enjoyment and happiness, as well as motivational and cognitive components (Salanova et al., 2006). According to Bakker (2005, 2008), when applied to the work situation, flow experience can be defined as a short-term peak experience at work that is characterized by absorption (i.e., the cognitive component), work enjoyment (i.e., the emotional component), and intrinsic work motivation (i.e., the motivational component).

Absorption refers to a state of total concentration whereby employees are totally immersed in their work, time passes quickly, and they forget everything around them (Csikszentmihalyi, 1990). Work enjoyment indicates a very positive judgment about the quality of working life (Bakker, 2008; Fullagar et al., 2013). Namely, employees who experience flow at work evaluate the quality of their working life very positively and perform certain work-related activities with the aim of experiencing enjoyment and satisfaction that is inherent to these activities (Bakker, 2005). Finally, intrinsic work motivation refers to the need to continually perform a certain work-related activity because of the fascination of the activity and not because of external regulation or reward (Bakker, 2008; Fullagar et al., 2013). Employees experience more flow when all three elements of flow at work are experienced more frequently and more intensely, as well as simultaneously (Bakker, 2008; Demerouti, 2006); in order to experience work-related flow, employees need to score high on each of the abovementioned components (A. B. Bakker, 2008). Researchers have also argued that, when measuring flow at work, the three dimensions of flow can be combined into one overall flow score (Bakker, 2008; Salanova et al., 2006).

Employees experience flow at work when the environment provides them with challenges that meet their highest abilities (Csikszentmihalyi, 2004). Thus, a work activity must provide opportunities for an employee's skills to be used and refined to the utmost (Demerouti, 2006); however, to continue providing a flow experience, activities must constantly be re-created (Ceja & Navarro, 2011; Csikszentmihalyi, 1990). In addition, Salanova et al. (2006) found that those employees with high beliefs in their skills experienced flow at work more frequently than those with low beliefs in their skills. Moreover, Ceja and Navarro (2011) found that flow at work presents a high degree of within-individual variability; high levels of flow are associated with chaos, and different dimensions of flow are associated with the emergence of different dynamic patterns.

1.3.3.2 Antecedents of flow

In what follows, I briefly summarize the antecedents that were studied in the papers included in my systematic review.

Dimensions of flow as antecedents. Analysis of the results revealed that some dimensions of flow can be also treated as antecedents of flow. For example, Ghani and Deshpande (1994) argued that perceived task *challenge* and sense of *being in control* are the key factors that result in the state of enjoyment and intense concentration called flow experience. To experience flow, individuals must recognize a challenge or opportunity for action; therefore, they must be flexible, open to new possibilities, seek out novelty, and be curious, experimental, and adaptable (Ceja & Navarro, 2011; Csikszentmihalyi, 1997a, 2004). Similarly, Nielsen and Cleal (2010) argued that when employees perceive that they are challenged to use their individual cognitive skills, competences, and abilities, they are more likely to experience flow at work. Specifically, Kowal and Fortier (1999) found that the situational perceptions of competence may act as antecedents of flow. Novak, Hoffman, and Duhachek (2003) also proposed that skills, challenges, involvement, focused attention, and telepresence are the antecedents of flow. Liu and Shiue (2014) found that challenge, novelty, and interactivity have a positive influence on players' flow experience.

Further, *clear goals* can also encourage the development of flow (Fullagar et al., 2013; Pilke, 2004; Quinn, 2005) because when faced with clear goals individuals know what they should do, how to do it, and they can appropriately channel their attention (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005). Specifically, Sánchez-Franco and Roldán (2005) found that flow occurs during goal-directed activities and thereby provided evidence that goals can stimulate flow experience. Jackson and Roberts (1992) also found that a task-involved goal orientation is positively related to flow. Similarly, Demerouti (2006) argued that when employees experience a clear task identity they will more likely experience flow. Finally, performance *feedback*, provided by supervisors, colleagues, or work itself, is another important antecedent of flow (Bakker, 2005; E. Demerouti, 2006;

Quinn, 2005; Swann et al., 2012). Feedback can boost individuals' belief in their ability, foster self-evaluation (e.g., optimism, hope, self-esteem), satisfy basic psychological needs (Swann et al., 2012), and provide direct and clear information on the effectiveness of individuals' performance (Steele & Fullagar, 2009).

Personality antecedents. Distinct *personality traits* (e.g., internal locus of control, curiosity, persistence, self-centeredness, self-control, need for achievement) are found to be of critical relevance for flow to emerge (Csikszentmihalyi, 1990; Eisenberger et al., 2005; Keller & Blomann, 2008; Kuhnle, Hofer, & Kilian, 2012; Mosing et al., 2012). For example, Mesurado and de Minzi (2013) found a negative effect of neuroticism on flow. Similarly, Ullén et al. (2012) found a negative relationship between flow proneness and neuroticism with regard to activities in everyday life.

Several researchers have argued that *autotelic personality*, defined “as the conjunction of receptive qualities (i.e., openness to new challenges) and active qualities (i.e., readiness to engage and persist in highly challenging activities)” (Keller & Bless, 2008, p. 203), is also an important antecedent of flow (Asakawa, 2004; Busch et al., 2013). For example, Asakawa (2010) suggested that “an autotelic individual is a person who has a strong tendency to find flow in his or her daily activities” (p. 206).

Moreover, Marin and Bhattacharya (2013) found that emotions may facilitate flow experience during music performance. According to Csikszentmihalyi (1975), negative emotions (e.g., fear, sadness) may reduce the possibility of experiencing flow (Csikszentmihalyi, 1997b). Moreover, Jackson (1995, 1992) also argued that the physical readiness of elite athletes, their precompetitive and competitive planning, and a positive mental attitude facilitate athletes' experience of flow. Further, Carpentier et al. (2012) showed that the more individuals have a harmonious passion, the more they tend to experience flow in their favorite activity.

Environmental antecedents. According to Moneta (2012), flow at work is predicted by the interaction of a personality trait and a work *environment characteristic* such as the opportunities for creativity at work. For example, Peters, Poutsma, Van der Heijden, Bakker, and Bruijn (2014) argued that, in order to experience flow at work, employees must perceive their working conditions as empowering, indicated by their perceptions of higher job autonomy levels. Flow occurs when individuals freely make decisions and feel in control (Csikszentmihalyi et al., 2005). Therefore, *autonomy*, defined as the degree to which individuals have independent discretion in determining the pace and process of the task at work (Hackman & Oldham, 1976), has been also identified as an antecedent of flow (Bakker, 2008; Demerouti, 2006; Fullagar & Kelloway, 2009; Steele & Fullagar, 2009). Some studies have identified further antecedents of flow: attractiveness, playfulness,

personal innovativeness, and content factors (Agarwal & Karahanna, 2000; Choi et al., 2007; Hoffman & Novak, 2009; Huang, 2006; Skadberg & Kimmel, 2004).

Further, Demerouti, Bakker, and Fried (2012) argued that a resourceful work environment can stimulate flow experience; however, the degree to which flow is experienced is also influenced by the basic motivation of employees regarding whether they work for income or fulfillment. Bakker (2008) also found that opportunities for self-growth are positively related to each of the three flow dimensions. Nielsen and Cleal (2010) further argued the work context influences flow at work and that planning, problem solving, and evaluation are activities that significantly predict flow. In addition, Finneran and Zhang (2003) proposed that task complexity may have a direct positive (e.g., influencing the balance of challenges and skills) or negative influence on flow (e.g., yielding anxiety).

Moreover, Bakker (2005) showed that *job resources* (e.g., autonomy, performance feedback, social support from colleagues, and supervisory coaching) had a positive relationship between challenges and skills, and that this balance, in turn, had predictive value for the frequency of flow among music teachers. Moreover, Salanova et al. (2006) found that job resources and flow at work reciprocally interact with each other over time. Fagerlind, Gustavsson, Johansson, and Ekberg (2013) suggested that the benefit from job resources such as social capital and innovative learning climate on flow at work is dependent on the degree of autonomy and skill discretion experienced at work. In addition, Fullagar and Kelloway (2009) found that flow can be influenced by the design of work because the majority of variance in flow is determined by situational characteristics rather than individual dispositional factors.

Job characteristics (e.g., type of job contract, flexibility of working hours, work schedule, role ambiguity) most likely have an effect on, and thereby increase the probability of, flow (Bakker, 2008; Ceja & Navarro, 2011; Nielsen & Cleal, 2010; Peters et al., 2014; Quinn, 2005; Salanova et al., 2006). Namely, job characteristics can make employees' work meaningful, hold them responsible for work processes and outcomes, and provide them with information about the actual results of the work activities (Demerouti, 2006).

1.3.3.3 Consequences of flow

In what follows, I briefly summarize the consequences that have been studied in the papers included in the systematic review.

Positive consequences. Research in various domains has found flow to be associated with many positive consequences, such as better performance (Engeser & Rheinberg, 2008; Jackson & Roberts, 1992; Sokolowski et al., 2000), positive affect (Asakawa, 2004; Finneran & Zhang, 2003; Jackson et al., 2001; Rogatko, 2009), positive subjective

experience (Csikszentmihalyi, 1975), positive mood and emotions (Clarke & Haworth, 1994; Eisenberger et al., 2005; Fullagar & Kelloway, 2009; Rogatko, 2009; Steele & Fullagar, 2009), learning (Csikszentmihalyi & LeFevre, 1989; Webster et al., 1993), increased communication (Trevino & Webster, 1992), increased exploratory behavior (Ghani & Deshpande, 1994; Webster et al., 1993), self-esteem (Asakawa, 2010; Wells, 1988), contextual motivation (Kowal & Fortier, 1999), a sense of fulfillment, life satisfaction and a better quality of life (Asakawa, 2004; Chen, 2006; Clarke & Haworth, 1994), social integration (Massimini et al., 1988), subjective well-being, creativity, and maximized efficiency (Chen, 2006; Csikszentmihalyi, 1988b, 1990, 1997a; Lambert et al., 2013; Nakamura & Csikszentmihalyi, 2002; Real et al., 2014; Steele & Fullagar, 2009).

Previous studies have also argued that there is a positive influence of flow on social interaction (Lin & Joe, 2012), website loyalty (O’Cass & Carlson, 2010), future behavior and behavioral intentions (Ding et al., 2009; Hoffman & Novak, 2009), customer satisfaction (O’Cass & Carlson, 2010), increased product value (Cheon, 2013), time spent gaming (Choi & Kim, 2004; Lee, Aiken, & Hung, 2012), attitudes about and extent of technology use (Chen, 2006; Trevino & Webster, 1992; Woszczyński, Roth, & Segars, 2002), increased consumer learning (Hoffman & Novak, 1996), acceptance of information technology, computer use, learning, and training (Finneran & Zhang, 2003; Woszczyński et al., 2002).

Several studies have demonstrated the positive relationship between flow and performance. Employees who enjoy (i.e., score high on the work enjoyment dimension of flow) their work perform their work better (Bakker, 2008). Further, Bakker (2008) also found that absorption may facilitate concentration and dedication to work activities and, thereby, improve performance. However, Engeser and Rheinberg (2008) suggested that flow is related to higher performance but does not necessarily cause it and that researchers should control for differences in expertise as well as ability in order to ascertain whether flow will actually lead to better performance. Similarly, Demerouti (2006) acknowledged that for goal-oriented and hardworking individuals flow experience has a strong influence on their in-role performance because they will be focused on and immersed in the right things; however, flow probably does not result in high performance when individuals are not eager to achieve the assigned goals because they will not necessarily direct their effort toward achieving their crucial work tasks. Moreover, Jackson et al. (2001) found a strong relationship between flow and self-reported performance levels, suggesting that flow may not result in objectively measured performance.

Further, Ceja and Navarro (2011) demonstrated that employees who experience high levels of flow at work are likely to be less predictable, as they seek novelty and opportunities for action and are adaptable and flexible. Moreover, Csikszentmihalyi, Rathunde, and Whelan (1997) demonstrated that, over time, flow is positively associated with teenagers’

motivation to seek out opportunities to enhance their skills and abilities. Similarly, Eisenberger et al. (2005) argued that individuals who had a disposition to meet high standards of excellence found high skills and challenges in the workplace and underwent a satisfying experience, which is associated with enhanced organizational spontaneity.

Asakawa (2010) demonstrated that the frequency of flow experience is positively related to the use of problem-focused and emotion-focused strategies (i.e., active coping) and negatively related to the use of problem-avoidance strategies (i.e., passive coping). Further, the results of this study showed that Japanese college students who experience flow more often in their daily lives are committed more seriously to academic work and college life in general (Asakawa, 2010). Namely, flow increases determination and persistence in the activity being performed (Busch et al., 2013; Landhäußer & Keller, 2012). Moreover, Asakawa (2010) found that flow was negatively associated with the level of postponement, diffusion, and avoidance in students' process of searching for their future career. Further, Fullagar and Kelloway (2009) found that students who experienced higher levels of flow also reported being more alert, happy, involved, and excited, indicating a significant and reliable relationship between flow and positive mood.

Rogatko (2009) argued that flow not only induces positive emotions, but it also seems to inhibit negative emotions as well. Similarly, Pace (2004) found that some individuals described flow at work as a form of stress relief that helps them contend with work pressures and inadequate breaks. Therefore, the more flow employees experience during working time, the more vigorous and the less exhausted they are at the end of the day; however, this is true only when employees have distance from their work during nonwork time (Evangelia Demerouti, Bakker, Sonnentag, & Fullagar, 2012).

Further, several studies have indicated that flow is positively related to creativity (Cseh, Phillips, & Pearson, 2015; Csikszentmihalyi, 1996; Deci & Ryan, 1985; MacDonald, Byrne, & Carlton, 2006; Moneta, 2012; Sosik, Kahai, & Avolio, 1999; Zaman, Anandarajan, & Dai, 2010). Csikszentmihalyi (1988) argued that "no matter how original one might be, if one is bored by the domain, it will be difficult to become interested enough in it to make a creative contribution" (p. 337). Flow is expected to enhance creativity by increasing positive affect and decreasing negative affect over the course of a creative task (Cseh et al., 2015). Further, researchers have found a strong relationship between flow and self-rated creativity (Cseh et al., 2015). Similarly, MacDonald et al. (2006) argued that higher levels of flow are associated with higher levels of creativity because they found that when self-reported flow levels during composing increased, university staff rated the compositions as more creative. Moreover, Zaman et al. (2010) found the indirect impact of flow on perceived creativity. Baker and MacDonald (2013) acknowledged that in order to stimulate creativity it may be helpful to facilitate social and creative situations where flow can be achieved. In addition, Yan, Davison, and Mo (2013)

found that knowledge seeking and contributing can stimulate flow and can further result in creativity at work.

Another positive consequence of flow is learning (Csikszentmihalyi & LeFevre, 1989; Finneran & Zhang, 2003; Hou & Li, 2014; Pearce et al., 2005; Quinn, 2005; Shernoff et al., 2003; Skadberg & Kimmel, 2004; Webster et al., 1993; Woszczyński et al., 2002). For example, Choi, Kim, and Kim (2007) found that flow has a direct and indirect impact on learning outcomes. Faiola, Newlon, Pfaff, and Smyslova (2013) also argued that learners who experience flow may acquire an improved attitude about learning online. Similarly, Ho and Kuo (2010) found that flow has a positive and direct influence on learning outcomes in an e-learning environment. Studies have shown that flow has short-term consequences on learning (e.g., rewarding engagement in learning) and far-reaching implications (e.g., the amount of time devoted to study, the level of academic career students are willing to pursue, shaping individuals' long-term goals) (Bassi & Delle Fave, 2012b).

Negative consequences. Flow can also result in negative outcomes (Hoffman & Novak, 1996; Keller, Bless, Blomann, & Kleinböhl, 2011; Woszczyński et al., 2002; Zhao, Lu, Wang, & Huang, 2011), such as increased time to task completion (Csikszentmihalyi, 1975; Webster et al., 1993), distortive risk taking (Schüler & Nakamura, 2013; Schüler & Pfenninger, 2011), overinvolvement (Csikszentmihalyi, 1975), and neglecting other duties that need to be completed (Trevino & Webster, 1992). However, some researchers have argued that it is hard to believe that flow can be associated with harmful and deviant behavior (e.g., Fausto Massimini & Delle Fave, 2000).

Keller and Bless (2008) acknowledged that “flow is not necessarily related to positive ethical or social consequences because flow experiences can become addictive (e.g., gambling, videogames)” (pp. 198–199). Similarly, flow can elicit an addiction to the favorable activity, which may lead to the neglecting of other important (social) activities (Keller et al., 2011; Khang, Kim, & Kim, 2013; Ng & Wiemer-Hastings, 2005; Ross & Keiser, 2014). For example, Lu and Wang (2008) found that when individuals experience flow while playing online games, they might repeatedly seek flow in online games, thereby increasing the possibility of developing online game addictions. Thus, several researchers have suggested that it is necessary to identify the point in time when flow shifts to addiction and gain more knowledge about the negative consequences of flow (Khang et al., 2013; Ross & Keiser, 2014).

Moreover, if not directed toward a required work task, flow might have a negative impact on work performance (Thatcher, Wretschko, & Fridjhon, 2008). For example, Quinn (2005) argued that flow is perceived as high performance by those who experience it; however, others do not always perceive it as appropriate, suggesting that flow may or may

not be translated into high measured results. Bakker (2008) also found that absorption, as one dimension of flow, may reduce the attentiveness to situational cues, thereby indirectly worsening performance. Moreover, Demerouti (2006) argued that, when experiencing flow, individuals may be unable or even unwilling to help their colleagues because they are totally immersed in their own activities. Further, Hoffman and Novak (1996) further acknowledged that flow may lead to mental and physical fatigue due to over involvement and that too much flow can distract a consumer from purchase-related activities. Similarly, Keller et al. (2011) also argued that flow can involve straining tension and mental load.

1.3.3.4 Flow and related constructs

Csikszentmihalyi (1993) himself acknowledged the interconnection between his concept of flow and many other concepts. My analysis of the results revealed that flow appears to be similar to the following constructs: engagement, involvement, passion, thriving, intrinsic motivation, and peak experience. In this section I briefly describe the interconnection between flow and the aforementioned constructs. The relationship between intrinsic motivation, peak experience, and flow has received the most attention in the literature; thus, I describe these relationships in their own subchapters.

According to several authors, flow shares some affinity with *engagement*, defined as “the positive, fulfilling, and work-related state of mind that is characterized by vigor, dedication, and absorption” (Schaufeli, Salanova, González-Romá, & Bakker, 2002, p. 74). For example, both, flow and engagement contain the components of absorption (Demerouti et al., 2012; Mäkikangas et al., 2010) and concentration (Demerouti, 2006; Ghani & Deshpande, 1994; Steele & Fullagar, 2009; Webster et al., 1993). Further, both have cognitive, affective, and physical components and are experienced as enjoyable states (Csikszentmihalyi, 1990; Jackson & Marsh, 1996). In addition, flow and engagement are both described as intrinsically motivating (Bakker, Schaufeli, Leiter, & Taris, 2008; Jackson & Eklund, 2004; Steele & Fullagar, 2009).

However, flow is a more acute state of absorption on a particular task, whereas work engagement is a pervasive affective-cognitive state that is not focused on a particular task, event, individual, or behavior (Demerouti et al., 2012). Similarly, Rodríguez-Sánchez et al. (2011) acknowledged that flow is a more specific experience that has a limited duration and that is related to a specific objective, whereas work engagement is a more general and pervasive work-related state of mind. Moreover, according to Schaufeli et al. (2002), the crucial distinction between flow and engagement is the difference in time frame, as engagement has been suggested to be more enduring and stable over time than flow.

Flow also suffers from conceptual ambiguity and overlap with *involvement* (Huang, 2006). Namely, both constructs share the following common elements: both are motivational

constructs, measured with the use of fun, exciting, and interesting indicators, and both are associated with concentration on an object of interest (Ghani & Deshpande, 1994; Huang, 2006). Privette (1983) acknowledged that flow involvement is a quality of flow. However, flow and involvement are not identical because each construct has some unique qualities. For example, the control quality of flow is not a characteristic of involvement (Huang, 2006).

Although flow and *passion* conceptually overlap, studies employed in the systematic review considered flow and passion distinct construct and were interested in the relationship between them. Several studies found a positive relationship between flow and passion (Carpentier et al., 2012; Dubreuil, Forest, & Courcy, 2014; Forest, Mageau, Sarrazin, & Morin, 2011). Specifically, Carpentier et al. (2012) found that the more individuals have a harmonious passion, defined as a strong but controllable desire to engage in an activity (Forest et al., 2011), the more they tend to experience flow in their passionate activity.

Further, flow may also appear to be similar to *thriving*, defined as the psychological state in which individuals experience a sense of vitality and a sense of learning at work (Spreitzer, Sutcliffe, Dutton, Sonenshein, & Grant, 2005). Positive energy is common to both flow and thriving (Spreitzer et al., 2005). However, when in flow, individuals do not see themselves as learning, whereas thriving is defined as a sense of learning (Spreitzer et al., 2005).

1.3.3.4.1 Flow and intrinsic motivation

My analysis revealed that flow and intrinsic motivation share some common components, but there are also differences between the two concepts. In this section, I briefly describe the common components and differences between flow and intrinsic motivation.

Flow is defined as a subjective experience (Csikszentmihalyi, 1975), whereas intrinsic motivation is defined as an innate, basic need (Deci & Ryan, 1985). Fullagar and Mills (2008) argued that the relation between flow and intrinsic motivation is determined by the degree to which individuals are able to satisfy their basic needs. Quinn (2005) suggested that flow helps us to understand motivation and that individuals can use flow elements (e.g., clear goals, feedback, challenges, and skills) to help control motivation and to guide decisions on whether, when, and how to adjust the structure or meaning of a task. Further, Bakker (2008) demonstrated that employees who enjoy their work (i.e., score high on the enjoyment dimension of flow) are often intrinsically motivated as well (and vice versa). Similarly, Faiola, Newlon, Pfaff, and Smyslova (2013) suggested that “the concept of intrinsic motivation is associated directly with flow, because whatever produces flow becomes its own reward, its own intrinsic motivation” (p. 1114).

Eccles and Wigfield (2002) suggested that flow and intrinsic motivation reflect *two sides of the same coin* because both types of behavior help to increase an individual's competence and are usually performed because they are pleasurable or enjoyable. Further, the authors argued that the flow theory focuses mainly on the intermediate reasons for behavior (e.g., enjoyment), whereas the intrinsic motivation theory focuses on the ultimate reasons for behavior (e.g., survival) (Eccles & Wigfield, 2002). Several researchers have argued that flow is a form of intrinsic motivation (Besser-Jones, 2012; Kwak, Choi, & Lee, 2014). For example, Deci and Ryan (1985) described flow as "the archetypal intrinsically motivated experience" (p. 155). However, Moneta (2012) found that only the autotelic dimension of flow conceptually overlaps with intrinsic motivation; therefore, if the autotelic dimension of flow is excluded from the conceptualization and measurement of flow, there is no risk of artifactual overlap in the test of the relationship between flow and intrinsic motivation.

Even though one could argue that flow and intrinsic motivation are the same construct, conceptual and empirical evidences show that flow and intrinsic motivation are related but *distinct constructs* (Moneta, 2012). For example, Keller and Bless (2008) argued that flow involves elements, such as a loss of self-consciousness and a distorted sense of time, that are not fundamental elements of intrinsic motivation in the general sense of the term and are thereby not necessarily present in every case of intrinsic motivation. Moreover, flow describes the quality of subjective experience, or how individuals sense intrinsic motivation, and explains why activities are rewarding, whereas intrinsic motivation research focuses on behavioral outcomes (Schweinle, Meyer, & Turner, 2006). Besser-Jones (2012) further acknowledged that flow is more specific to activities that demand a balance of challenges and skills, whereas intrinsic motivation is a more general state that arises from an activity one finds enjoyable.

Several studies have suggested that *intrinsic motivation is an antecedent of flow* (Busch et al., 2013; Csikszentmihalyi & LeFevre, 1989; Jackson, 1995; Kowal & Fortier, 1999; Schüler, Brandstätter, & Sheldon, 2013; Shang, Chen, & Shen, 2005; Zhao et al., 2011) and found a positive link between the two (Fullagar & Mills, 2008; Jackson & Roberts, 1992; Kowal & Fortier, 1999). For example, Moneta (2012) suggested that intrinsic motivation is a key antecedent of flow because it fosters a deep cognitive involvement in activities, a balance between interests and results, and thereby, fosters flow. Moreover, extensive research has shown that individuals experience flow when they become engaged in intrinsically motivating activities (Csikszentmihalyi, 1990; Csikszentmihalyi & Csikszentmihalyi, 1988; Jackson, Kimiecik, Ford, & Marsh, 1998). Specifically, Csikszentmihalyi (1990) argued that the more individuals engage in intrinsically motivating activities, the more they can experience flow. However, Lambert, Chapman, and Lurie (2013) proposed that flow stems from seeking competency, not in the enjoyment

per se; therefore, in order to experience flow, an activity may or may not, initially, be intrinsically motivating.

1.3.3.4.2 *Flow and peak experience*

Several researchers have concluded that flow and peak experience, defined as “a generalization for the best moments of the human being, for the happiest moments of life, for experiences of ecstasy, rapture, bliss, of the greatest joy” (Maslow, 1971, p. 105), *share some similar characteristics*, such as attention, involvement, playfulness, and high levels of enjoyment (Marin & Bhattacharya, 2013; Pace, 2004; Privette, 1983; Schouten, McAlexander, & Koenig, 2007). In fact, flow has been shown to be related to peak experience across various disciplines (Baker & MacDonald, 2013; MacDonald et al., 2006; Marin & Bhattacharya, 2013; Sawyer, 2003).

However, flow and peak experience should still be viewed as *conceptually distinct* (Jackson et al., 2001). According to Jackson (1996), the main difference between flow and peak experience is the intensity of the experience. Similarly, Walker, Hull, and Roggenbuck (1998) argued that the difference between flow and peak experience lies in the fact that flow varies in intensity while peak experience is an all-or-nothing state. The individual flow experience is enjoyed in the moment, whereas peak experience leaves deep tracks in the psyche (Schouten et al., 2007). In addition, peak experience has much higher levels of experienced joy than flow (Hoffman & Novak, 1996; Privette, 1983).

Further, Privette (1983) acknowledged that the main difference between flow and peak experience is the fact that, when in flow, individuals actively interact with the environment in ways that involve the execution of skill-related behaviors, whereas peak experience tends to be perceptual, receptive, and passive. Similarly, Schouten, McAlexander, and Koenig (2007) argued that peak experience often originates from outside individuals and is not a deliberate process, whereas individuals experience flow through extreme focus on a particular task. Further, peak experience has a mystic or transpersonal quality—described with terms such as absolute, cosmic, pure psyche, and even ecstasy—that is not clearly defined in flow (Privette, 1983). Thus, even though flow and peak experience often overlap in the same activity (Schouten et al., 2007), peak experience may not necessarily involve flow (Jackson, 1996).

1.4 DISCUSSION AND RECOMMENDATIONS

The first aim of this systematic review was to summarize the existing research on flow experience across various domains and disciplines. Specifically, this study has attempted to identify the characteristics, antecedents, and consequences of flow experience across different domains and to identify and compare similarities and differences between flow and other related constructs. Thereby, I have contributed to the theory and research on flow experience. To date, bibliometric methods and reviews have remained rare and narrowly focused on specific facets of flow experience (e.g., Boyle, Connolly, Hainey, & Boyle, 2012; D'Mello, 2013; Dietrich, 2004; Finneran & Zhang, 2003). To the best of my knowledge, this is the first systematic review to synthesize past theoretical and research findings across various disciplines. I have contributed to the flow theory by synthesizing examined antecedents, characteristics, and consequences of flow across disciplines. Therefore, the findings of this review provide insights into the antecedents, characteristics, and consequences of flow experience that have so far been examined in various settings.

In what follows, I briefly discuss my conclusions with respect to the antecedents, characteristics, and consequences of flow experience and related constructs.

1.4.1 Characteristics of flow experience

This systematic review revealed some challenges in trying to understand flow experience. First, there is no currently accepted uniform definition, and some problems exist in operationalizing the construct, thus causing researchers to conceive and measure the flow experience differently (Quinn, 2005; Rodríguez-Sánchez et al., 2011). Further, because there is no consistent approach to modeling relationships between elements of the flow experience, it is difficult to discriminate between an indicator, an antecedent, and a consequence of flow experience; thereby, the same construct may fall into all three categories, depending on the researcher's treatment (Finneran & Zhang, 2003; Fullagar & Kelloway, 2013; Quinn, 2005; Rodríguez-Sánchez et al., 2011; Swann et al., 2012). Namely, researchers have conceptualized flow components as flow antecedents (e.g., clear goals, skills, challenges, immediate feedback, potential control, the merger of action and awareness, interaction, and presence), flow experience (e.g., flow state, concentration, loss of self-consciousness, time distortion, and telepresence), and flow consequences (e.g., positive affect, autotelic experience, increased learning, attitude, and behavior change) (Finneran & Zhang, 2003; Ghani & Deshpande, 1994; Hoffman & Novak, 1996; Hosseini & Fattahi, 2014). Thus, future research is needed to clarify the conceptualization of flow components.

Moreover, the systematic review also revealed that different researchers have categorized flow into different numbers of dimensions (e.g., Bakker, 2008; Csikszentmihalyi, 1975,

1997b; Hoffman & Novak, 1996; Webster et al., 1993). In addition, in some studies flow is treated as a unidimensional central component (e.g., Hoffman & Novak, 1996; Novak et al., 2000), whereas it is treated as a multidimensional construct in others (e.g., Ghani & Deshpande, 1994; Webster et al., 1993), indicating that the flow construct is too broad and ill-defined due to the numerous ways it has been operationalized, tested, and applied (D. H. Choi et al., 2007; Finneran & Zhang, 2003; Koufaris, 2003). Hence, future research should produce evidence that would clearly answer the question of how many dimensions are necessary to measure flow experience.

The aforementioned challenges may arise from the fact that flow researches have been conducted in different disciplines, including psychology (e.g., Clarke & Haworth, 1994; Csikszentmihalyi, 1975, 1999), sports and physical activity (e.g., Hunter & Csikszentmihalyi, 2000; Jackson & Csikszentmihalyi, 1999; Jackson & Hanin, 2000; Swann et al., 2012), music (e.g., Bakker, 2005; de Manzano et al., 2010; Freer, 2009; Hunter & Csikszentmihalyi, 2000), human–computer interaction (e.g., Finneran & Zhang, 2003; Ghani & Deshpande, 1994; Webster et al., 1993), consumer behavior (e.g., Novak et al., 2000), communications (e.g., Chen et al., 1999; Trevino & Webster, 1992), and learning (e.g., Admiraal et al., 2011; D’Mello, 2013). However, there is no dogmatic and consistent application of flow; prior studies across different domains have applied Csikszentmihalyi’s theory in many diversified ways (Finneran & Zhang, 2003; Jung, Perez-Mira, & Wiley-Patton, 2009).

In addition, even though Csikszentmihalyi (1990) himself postulated the potential negative side of flow, the existing research has focused almost exclusively on exploring the positive characteristics of flow (Schüler & Nakamura, 2013). However, a few studies have highlighted the negative aspect of flow experience by showing that individuals can experience flow when engaged in antisocial activities (e.g., crime and warfare) (Keller & Bless, 2008), addictive or wasteful activities (Csikszentmihalyi, 1999), activities that are destructive to the self and/or work/culture (Nakamura & Csikszentmihalyi, 2002), and activities that involve high levels of risk (Csikszentmihalyi, 1990; Peifer et al., 2014; Rheinberg & Manig, 2003). Some authors have also emphasized the addictive nature of flow experience (Boyle et al., 2012; Chou & Ting, 2003; Csikszentmihalyi, 1975; Trayes et al., 2012). Therefore, “the flow experience, like everything else, is not ‘good’ in an absolute sense” (Csikszentmihalyi, 1990, p. 70), and thus, the potential side effects of flow warrant further, systematic investigations (Keller et al., 2011).

1.4.2 Antecedents of flow experience

As mentioned above, systematic review revealed that some researchers treat the following dimensions of flow as flow antecedents: a balance between challenges and skills (e.g., Ceja & Navarro, 2011; Ghani & Deshpande, 1994; Kowal & Fortier, 1999; Nielsen & Cleal,

2010; Novak et al., 2003), clear goals (Fullagar et al., 2013; Jackson & Roberts, 1992; Pilke, 2004; Quinn, 2005; Sánchez-Franco & Roldán, 2005), and feedback (Bakker, 2005; Demerouti, 2006; Quinn, 2005; Steele & Fullagar, 2009; Swann et al., 2012).

Further, previous studies have demonstrated that some personality traits (e.g., internal locus of control, curiosity, persistence, self-centeredness, self-control, need for achievement) are found to be of critical relevance for flow to emerge (Csikszentmihalyi, 1990; Eisenberger et al., 2005; Keller & Blomann, 2008; Kuhnle et al., 2012; Mosing et al., 2012). Autotelic personality has also been identified as an important antecedent of flow (Asakawa, 2004; Busch et al., 2013). Even though flow theorists have explicitly proposed a positive relationship between certain personality variables and the frequency and intensity of flow experience, little is known about the role of such personality factors with respect to flow experience (Keller & Blomann, 2008; Ross & Keiser, 2014).

Moreover, the existing research has also identified the following environmental antecedents of flow experience: environmental characteristics, such as opportunities for creativity at work (Moneta, 2012), empowering conditions (Peters et al., 2014); autonomy (Hackman & Oldham, 1976); and a resourceful work environment (Demerouti et al., 2012). In addition, job resources (e.g., autonomy, performance feedback, social support from colleagues, and supervisory coaching) (Bakker, 2005; Fagerlind et al., 2013; Fullagar & Kelloway, 2009; Salanova et al., 2006) and job characteristics (e.g., type of job contract, flexibility of working hours, work schedule, role ambiguity) (Bakker, 2008; Ceja & Navarro, 2011; Nielsen & Cleal, 2010; Peters et al., 2014; Quinn, 2005; Salanova et al., 2006) were also identified as important antecedents of flow experience.

However, “the factors that instigate, maintain, prevent or interrupt flow are much less clearly understood” (Swann et al., 2012, p. 808). To date, little research has focused on the antecedents of flow (Eisenberger et al., 2005; Nielsen & Cleal, 2010). However, knowledge about antecedents and consequences is important for demonstrating the added value of flow in different settings (Demerouti, 2006). Hence, research should strive to explain the causal mechanisms responsible for the occurrence of flow experience. Swann et al. (2012) recommended that distinguishing between the necessary and sufficient conditions of flow may be helpful research to begin to explore the causality of flow.

1.4.3 Consequences of flow experience

The consequences of flow have become a central interest to researchers because of flow's potential for personal growth and improvement of quality of life (Nakamura & Csikszentmihalyi, 2002; Nakamura & Csikszentmihalyi, 2009). Since flow is often considered an end itself, the consequences of flow have been less documented than its determinants (Aubé et al., 2014; Cseh et al., 2015). However, this review has demonstrated

that flow has been associated with many positive consequences, such as positive affect (Asakawa, 2004; Finneran & Zhang, 2003; Jackson et al., 2001; Rogatko, 2009), positive subjective experience (Csikszentmihalyi, 1975), positive mood and emotions (Clarke & Haworth, 1994; Eisenberger et al., 2005; Fullagar & Kelloway, 2009; Rogatko, 2009; Steele & Fullagar, 2009), learning (Csikszentmihalyi & LeFevre, 1989; Webster et al., 1993), increased communication (Trevino & Webster, 1992), increased exploratory behavior (Ghani & Deshpande, 1994; Webster et al., 1993), self-esteem (Asakawa, 2010; Wells, 1988), contextual motivation (Kowal & Fortier, 1999), a sense of fulfillment, life satisfaction and a better quality of life (Asakawa, 2004; H. Chen, 2006; Clarke & Haworth, 1994), social integration (Massimini et al., 1988), subjective well-being, creativity, and maximized efficiency (Chen, 2006; Csikszentmihalyi, 1988b; Csikszentmihalyi, 1990, 1997a; Lambert et al., 2013; Nakamura & Csikszentmihalyi, 2002; Real et al., 2014; Steele & Fullagar, 2009). In addition, some studies have suggested that flow is associated with better performance (Bakker, 2008; Engeser & Rheinberg, 2008; Jackson & Roberts, 1992; Sokolowski et al., 2000). On the other hand, some studies have suggested flow may not result in objectively measured performance. For example, Jackson et al. (2001) found a strong relationship between flow and self-reported performance levels.

Moreover, some studies have demonstrated that flow may be also associated with some negative consequences (Hoffman & Novak, 1996; Keller et al., 2011; Woszczyński et al., 2002; Zhao et al., 2011), such as increased time to task completion (Csikszentmihalyi, 1975; Webster et al., 1993), distortive risk taking (Schüler & Nakamura, 2013; Schüler & Pfenninger, 2011), overinvolvement (Csikszentmihalyi, 1975), and neglecting other duties that need to be completed (Trevino & Webster, 1992). However, systematical review revealed that the negative consequences of flow have been rarely examined and that researchers have primarily focused their attention on the positive consequences of flow experience. Thus, future research should gather more empirical evidence that addresses the potential negative consequences of flow.

1.4.4 Flow and related constructs

Analysis of the results revealed that flow may be similar to the following constructs: engagement, involvement, passion, thriving, intrinsic motivation, and peak experience. For example, my review revealed that flow shares some affinity with engagement, such as absorption (Demerouti et al., 2012; Mäkikangas et al., 2010) and concentration (Demerouti, 2006; Ghani & Deshpande, 1994; Steele & Fullagar, 2009; Webster et al., 1993). Additionally, both have cognitive, affective, and physical components; are experienced as enjoyable states (Csikszentmihalyi, 1990; Jackson & Marsh, 1996); and are described as intrinsically motivating (Bakker et al., 2008; Jackson & Eklund, 2004; Steele & Fullagar, 2009). However, according to Schaufeli et al. (2002), the crucial distinction

between flow and engagement is the difference in time frame, as engagement is suggested to be more enduring and stable over time than flow.

In addition, the review has demonstrated that the relationship between intrinsic motivation, peak experience, and flow has received the most attention in the literature. Even though one could argue that flow and intrinsic motivation are the same construct, conceptual and empirical evidences show that flow and intrinsic motivation are related but *distinct constructs* (Moneta, 2012). Further, several studies have suggested that intrinsic motivation is an antecedent of flow (Busch et al., 2013; Csikszentmihalyi & LeFevre, 1989; Jackson, 1995; Kowal & Fortier, 1999; Schüler et al., 2013; Shang et al., 2005; Zhao et al., 2011) and found a positive link between the two (Fullagar & Mills, 2008; Jackson & Roberts, 1992; Kowal & Fortier, 1999). As noted above, several researchers have also argued that flow and peak experience also share some similar characteristics, such as attention, involvement, playfulness, and high levels of enjoyment (Marin & Bhattacharya, 2013; Pace, 2004; Privette, 1983; Schouten et al., 2007). In fact, flow has been shown to be related to peak experience across various disciplines (Baker & MacDonald, 2013; MacDonald et al., 2006; Marin & Bhattacharya, 2013; Sawyer, 2003). However, flow and peak experience should still be viewed as conceptually distinct (Jackson et al., 2001). The main difference between these two constructs is the intensity of the experience (Jackson, 1996; Schouten et al., 2007; Walker et al., 1998). In addition, flow and peak experience often overlap in the same activity (Schouten et al., 2007); however, peak experience may not necessarily involve flow (Jackson, 1996).

1.4.5 Flow at work

Although researchers have started to become interested in flow at work, we still have limited knowledge about the phenomenon in work settings (Demerouti, 2006; Eisenberger et al., 2005; Fullagar & Kelloway, 2009; Llorens et al., 2013). Thus, the second aim of this study was to contribute to the flow-at-work theory by combining flow literature across domains into a comprehensive framework of flow at work. Namely, I presumed that theoretical and empirical findings on flow from other disciplines could be applied to the work context and, thereby, deepen our understanding of flow at work. Therefore, I first performed a bibliometric co-citation analysis to identify the dominant disciplines of flow theory. The bibliometric co-citation analysis revealed the following dominant disciplines: psychology, sport psychology, marketing, and human-computer interaction. In addition, I conducted a systematic review in order to synthesize past research findings on flow theory across the dominant disciplines and combine them into a comprehensive framework of flow at work.

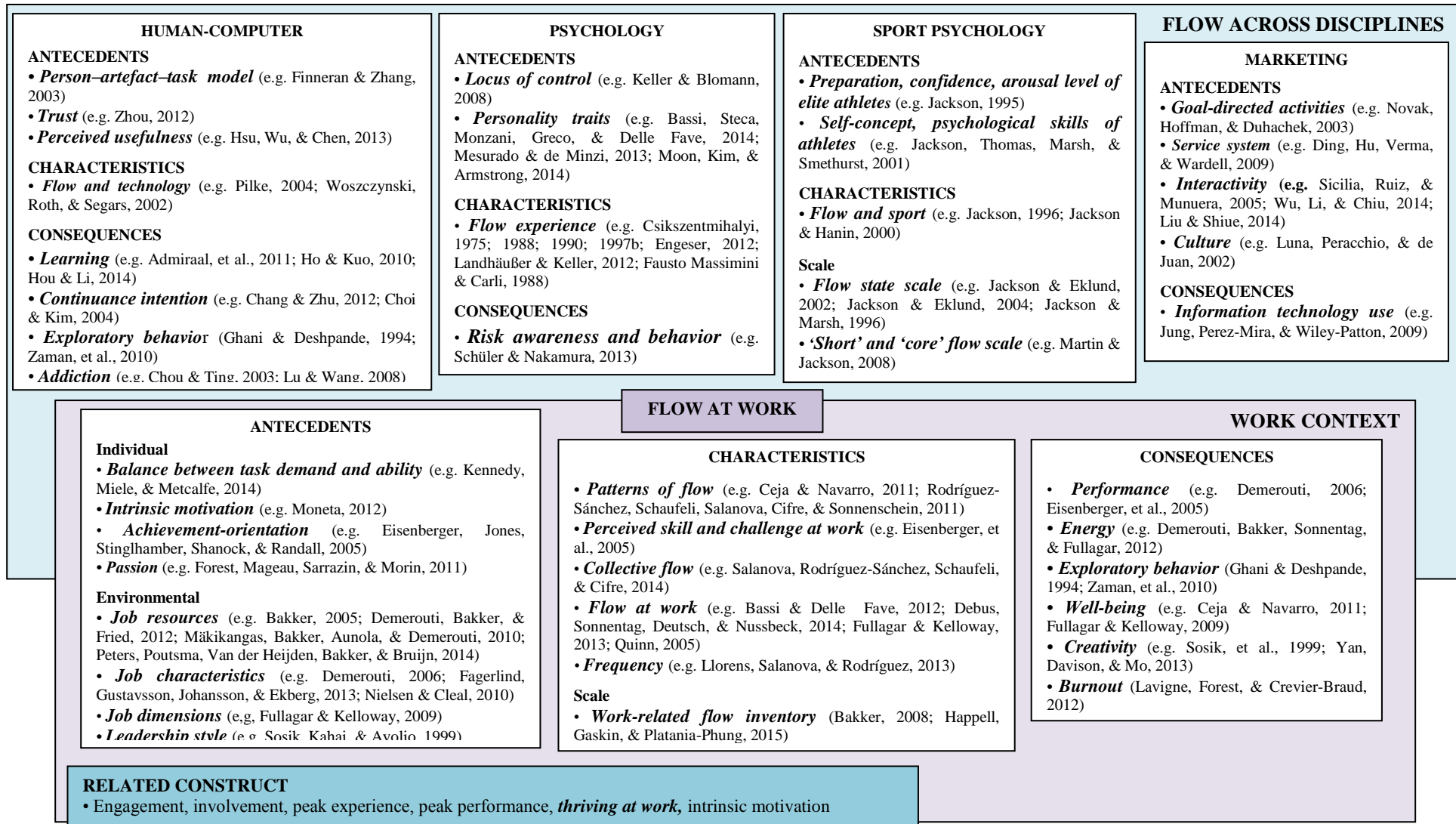
The systematic review revealed that 30 studies (14.7 percent) in my consideration set dealt with flow experience in the work context. As shown in Figure 10 past studies examined the

following individual and environmental antecedents of flow at work: balance between task demand and ability (e.g., Kennedy et al., 2014), intrinsic motivation (e.g., Moneta, 2012), achievement orientation (e.g., Eisenberger et al., 2005), passion (e.g., Forest et al., 2011), job resources (e.g., Bakker, 2005; Demerouti et al., 2012; Mäkikangas et al., 2010; Peters et al., 2014), job characteristics (e.g., Demerouti, 2006; Fagerlind et al., 2013; Nielsen & Cleal, 2010), job dimensions (e.g., Fullagar & Kelloway, 2009), and leadership style (e.g., Sosik et al., 1999). Based on the findings of the studies included in this review, I identified only eight antecedents of flow at work. This suggests that scant research to date has focused on the antecedents of flow in the workplace; therefore, future exploration of the antecedents of flow at work is needed.

Moreover, past studies have also examined the following characteristics of flow at work (see Figure 10): patterns of flow at work (e.g., Ceja & Navarro, 2011; Rodríguez-Sánchez et al., 2011), perceived skills and challenges at work (e.g., Eisenberger et al., 2005), collective flow (e.g., Marisa Salanova et al., 2014), flow at work (e.g., Bassi & Delle Fave, 2012a; Debus, Sonnentag, Deutsch, & Nussbeck, 2014; Fullagar & Kelloway, 2013; Quinn, 2005), and frequency (Llorens et al., 2013). In addition, researchers have also developed a scale for measuring work-related flow (Bakker, 2008; Happell, Gaskin, & Platania-Phung, 2015). In order to progress our understanding of the flow-at-work phenomenon, future exploration of collective flow at work is needed.

Systematic review also revealed the following consequences investigated in the work context (see Figure 10): performance (e.g., Demerouti, 2006; Eisenberger et al., 2005), energy (e.g., Demerouti et al., 2012), well-being (e.g., Ceja & Navarro, 2011; Fullagar & Kelloway, 2009), creativity (e.g., Sosik et al., 1999; Yan et al., 2013), and burnout (e.g., Lavigne, Forest, & Crevier-Braud, 2012). The list of identified consequences of flow at work is also quite short, highlighting the need for researchers to further explore the topic. This review also revealed that no research to date has specifically examined the negative consequences of flow at work. Given that the findings of studies across different domains provide some evidence of the negative consequences of flow experience, more research about the negative consequences of flow at work is clearly needed.

Figure 10: A comprehensive framework of flow at work



Further, some findings about flow experience across psychology, human–computer interaction, marketing, and sport psychology revealed in this review could be applied to the work context (see Figure 10). For example, the flow theory is grounded in psychology; thus, the main theoretical and empirical findings about the characteristics of flow experience from psychology should also be the characteristics of flow at work. In addition, researchers from the psychology discipline have found several antecedents (e.g., locus of control, personality traits) and consequences (e.g., risk awareness and behavior) of flow that could be relevant to flow in the work context. Moreover, several findings about the antecedents (e.g., the person-artefact-task model, trust, perceived usefulness), characteristics (e.g., flow and technology), and consequences (e.g., learning, continuance intention, exploratory behavior, addiction) of the flow experience from human–computer interaction studies could be applied in the work context since more and more employees are interacting with computers at work. Similarly, researchers from marketing have primarily used the flow theory to explain online consumer behavior. Since online business is becoming the way to do business—because many consumers favor online services—several findings about the antecedents (e.g., goal-directed activities, service system, interactivity, culture) and consequences (e.g., information technology use) of flow from marketing could be useful for understanding flow at work.

Finally, several sport psychologists have examined how athletes experience flow. Professional athletes, irrespective of whether they are in a work relationship with a sports organization or are self-employed, can be considered employees who work in a specific work context. Thus, the findings about the antecedents (e.g., preparation, confidence, arousal level of athletes) and characteristics (e.g., flow in sport) of flow experience from sport psychology can deepen our understanding of flow in a specific workplace. In addition, researchers who study flow experience in sports have developed the Flow State Scale (Jackson & Hanin, 2000; Jackson & Marsh, 1996). The flow state scale allows us to measure all nine dimensions of flow experience proposed by Csikszentmihalyi, whereas the work-related inventory, proposed by Bakker (2008), allows us to measure only three dimensions of flow at work (i.e., absorption, work enjoyment, and intrinsic work motivation). In order to gain a better understanding of the flow-at-work phenomenon, future research should thus explore the link between findings on flow experience across various disciplines and flow at work. This review suggests that past findings across various domains could provide us with plausible antecedents, characteristics, and consequences of flow that need to be tested in the work setting. However, when applying the findings on flow experience from various domains to a work setting, researchers should be aware that there may be some differences in the interpretation of flow experience across domains. Thus, this issue should be carefully addressed in future research.

1.4.6 Limitations

This review is not without limitations. The first limitation of this review is related to the fact that I used only SSCI database records. Albeit this database of records is the most recognized, it may have omitted some relevant research. Second, although I followed a rigorous procedure of systematic review to reduce the probability of omitting critically important research, the filtering process employed may also have omitted some relevant research. Third, the focus of this review was to synthesize past research; therefore, this review does not offer detailed insight into past findings. Fourth, the comprehensive framework of flow at work was made on several subjective judgments; namely, the flow literature is very complex, and thus a comprehensive framework of flow at work was made on several subjective judgments about the quality and relevance of past findings. Thus, different groups of researchers would inevitably have identified and highlighted different theoretical and empirical findings and, thereby, produced a different comprehensive framework. Therefore, the findings presented in this section should be seen as a proposed framework of flow at work that combines findings across domains rather than a definitive framework of flow at work. I am hopeful that the proposed framework will encourage researchers to test the proposed model and, thereby, deepen our understanding of flow at work.

A literature review has shown that, even though active researchers predominantly see flow as a positive phenomenon, flow may also be associated with unethical behavior. When in flow, individuals ignore all the irrelevant information that may be construed as an impediment (Beard & Hoy, 2010; Csikszentmihalyi, 1991; Jackson & Hanin, 2000), so their awareness becomes bounded. Therefore, because of this bounded awareness while in flow, individuals may unintentionally forget or ignore the ethical dimension if it does not directly relate to the activity itself (Palazzo, Krings, & Hoffrage, 2012); consequently, they may become ethically blind and behave unethically without being aware of it. To empirically examine the relationship between flow and unintentionally unethical behavior, in the following, I present the development of an ethical blindness scale.

2 DEVELOPING A MEASURE OF ETHICAL BLINDNESS IN THE WORKPLACE

Recent models of ethical decision making have underlined the influence of unconscious processes on unethical behavior, and ethical blindness has been identified as a construct that deepens our understanding of unintentional unethical behavior. However, to date, no empirically tested measure of ethical blindness at work exists. Consequently, in this chapter, I explored and developed a tool for measuring ethical blindness at work. Based on qualitative data from interviews with individuals employed in different industries and a literature review, I developed a multidimensional measure of ethical blindness. The measure was tested and validated in several consecutive steps on three quantitative data sets. Exploratory factor analysis generated three factors (rationalization, routine, and ignorance) comprising 13 items of ethical blindness. Confirmatory factor analysis verified that three-factor structure had acceptable fit. The dimensions displayed good internal reliability. Preliminary evidence of construct and discriminant validity was also provided. The paper discusses the practical implications and future research.

2.1 INTRODUCTION

The enormous costs of unethical behavior in organizations have highlighted the importance of understanding why, how, and under what circumstances employees behave unethically (Chen, Tang, & Tang, 2013; Kish-Gephart, Harrison, & Treviño, 2010; Moore, Detert, Klebe Treviño, Baker, & Mayer, 2012). Most attention to this topic has relied upon a rationalist approach and thus conceptualizes unethical behavior as the result of a conscious, rational, and deliberate process (Chang, 1998; Rest, 1986). According to the rationalist approach, employees are aware of the difference between right and wrong in a given situation, but they choose to behave unethically because they are rewarded for doing so (Ashkanasy, Windsor, & Treviño, 2006).

However, recent models of ethical decision making have explored how intuitive, unconscious, and automatic processes influence unethical behavior (Palazzo, Krings, & Hoffrage, 2012; Sonenshein, 2007; Welsh & Ordonez, 2013). Namely, there is growing acknowledgement that employees sometimes fail to perceive the unethical aspect of their decisions and may behave unethically without being aware of it (Palazzo et al., 2012).

Palazzo, Krings, and Hoffrage (2012) use the term *ethical blindness* to describe this phenomenon and define it as “the decision maker’s temporary inability to see the ethical dimension of a decision at stake” (p. 324). Ethical blindness is an unconscious, context-bound, and, thus, temporary state in which individuals are “not aware of the fact that they deviate from their own values and principles and/or that they cannot and do not access those values when making a decision” (Palazzo et al., 2012, p. 325). Individuals who fail to

perceive that they behave unethically may be convinced that they are doing the right thing and are thus unlikely to seek ways to improve their behavior (Eldred, 2012). Therefore, ethical blindness increases the risk of unethical behavior (Palazzo et al., 2012).

Even though ethical blindness has been identified as a construct that can help us to better understand unethical behavior, our current understanding of ethical blindness remains limited, and much empirical research has yet to be done. Namely, there is little empirical research examining ethical blindness in organizations, and consequently, academics and practitioners are still uncertain when it comes to examining the presence of ethical blindness at work and its effect on employees' (un)ethical behavior. One reason for this might be the fact that ethical blindness occurs below the level of consciousness; thus, it is hard to find direct evidence of ethical blindness, and as a result, evidence must be inferred (Eldred, 2012). Furthermore, related to the first reason, to the best of our knowledge, there is no instrument to evaluate the existence of ethical blindness in organizations. However, the availability of a validated measure of ethical blindness at work could enhance empirical research in this field.

Thus, the purpose of this chapter is to develop a comprehensive scale that measures ethical blindness at work. My goal is to deepen our understanding of ethical blindness at work and to provide a basis for future research. Specifically, I: (i) outline the conceptualization of ethical blindness at work; (ii) develop a multidimensional measure to assess ethical blindness in organizations, estimate its psychometric properties, provide evidence of its constructs' validity, and distinguish this behavior from related constructs; and (iii) discuss key results of the study and draw implications for research and managers. By doing so I lay the necessary conceptual and empirical groundwork that might advance knowledge about ethical blindness in organizations.

2.2 UNDERSTANDING ETHICAL BLINDNESS IN THE WORKPLACE

2.2.1 Ethical blindness in the workplace

Ethical blindness is defined as “the decision maker’s temporary inability to see the ethical dimension of a decision at stake” (Palazzo et al., 2012, p. 324). Since unconscious aspects of decision making play a substantial role in ethical judgment (Bazerman & Gino, 2012), individuals may behave unethically without being aware of it and may even be convinced that they are doing the right thing (Palazzo et al., 2012). Ethical blindness is the inability to recognize the ethical issue in a certain situation, though ethically blind individuals may recognize the unethical dimension of their decision later, after some time (Palazzo et al., 2012).

Ethical blindness can be understood along three aspects: (i) Even though certain values and principles are part of individuals' identity, they may sometimes deviate from their own values and principles; (ii) ethical blindness is context bound and, thus, a temporary state during which individuals with normal (or even high) levels of integrity and the ability for moral reasoning are, for some reason, not able to use these capacities in certain situations when making a decision; (iii) ethical blindness is an unconscious phenomenon since ethically blind individuals are not aware of the fact that they deviate from their values and/or they cannot and do not access those values when making a decision (Palazzo et al., 2012).

Thus, awareness of ethical issues when making decisions presents the core element of ethical blindness. According to Rest (1986), recognizing that a moral problem exists or that a moral principle is relevant to a certain situation is the first step leading to ethical behavior. When individuals fail to perceive the ethical dimension of a decision, ethical blindness may occur. Thus, ethical blindness is likely driven by a lack of awareness of ethical issues.

In order to define ethical blindness in the workplace, I focus on situations at work in which individuals unintentionally deviate from their values and behave unethically without being aware of it (i.e., become ethically blind). Theory suggests that lack of information, knowledge, and experience can amplify ethical blindness in the workplace. Namely, Choe, Song, and Jung (2012) found that when new nurses do not know that patients have legal rights, they often neglect to allow patients these rights and, thus, behave unethically without being aware of it. Thus, individuals can be ethically blind because they simply do not have the necessary knowledge, information, or experience to recognize the ethical problems in certain situations.

Further, ethical blindness at work can be amplified by organizational routines (Brief, Buttram, & Dukerich, 2001; Palazzo et al., 2012). Namely, individuals do not seek out information in a neutral way; rather, they tend to seek out information that confirms their preexisting beliefs and also selectively recall from memory information that is consistent with those beliefs (Eldred, 2012; Gilovich, 2008). When individuals carry out a routine task, they build upon previous experiences that have shaped their way of perceiving the task. They recall past experiences, knowledge, information, and beliefs from memory and use them to carry out routine tasks in the same way as in the past. Decisions for such tasks become routinized, and individuals do not question whether these decisions are still appropriate or not (Palazzo et al., 2012). When environmental conditions change significantly, routines amplify ethical blindness at work, as individuals may not question their routinized decisions despite changes in the environment. Thereby, decision makers are unable to identify the new ethical dimension arising from changes in the environment; thus, they become ethically blind.

Finally, ethically blind individuals may start to believe in their own rationalizations and, thus, may be convinced that they are doing the right thing (Palazzo et al., 2012). Common rationalizations for unethical behavior include “Everyone else doing it,” “I didn’t know that what I was doing was wrong,” “No one got hurt,” and many others (Hall, 2010). As such, individuals tend to automatically shift blame away from their own negative behavior toward an external source, such as another person, institution, or external pressure (Hall, 2010), without being aware of it and, thereby, become ethically blind. For example, individuals who are constantly exposed to the unethical behavior of their colleagues may, as time goes by, start to behave in the same manner and develop a justification for their unethical behavior (i.e., “Everyone else doing it”). Another example of ethical blindness due to rationalization would be a situation under time pressure, when individuals usually use more simple decision strategies (Rieskamp & Hoffrage, 2008) and may fail to perceive the ethical component of their decision; however, they may justify their potential unethical behavior by using the lack of time as an excuse. It is important to note that, in the above cases, the more individuals develop and use particular rationalizations, the more they can become habitual and seemingly valid parts of their thinking processes; this can result in individuals not being aware of the effect of rationalization, and thereby, individuals may become ethically blind (Hall, 2010).

2.2.2 Ethical blindness and related constructs

There is a growing interest in understanding unethical behavior, and researchers have identified different forms of unethical behavior at work. Thus, I identified two constructs in the literature on ethics at work that have the potential to overlap with ethical blindness at work. In what follows, I discuss the distinction between ethical blindness at work and the two identified constructs: workplace deviance and counterproductive work behavior.

According to Robinson and Bennett (1995), deviant workplace behavior is defined as “voluntary behavior that violates significant organizational norms and in doing so threatens the well-being of an organization, its members, or both” (p. 556). Both workplace deviance behavior and ethical blindness can be characterized as deviation from values (organizational or personal). However, in contrast to ethical blindness, which represents an unintentional deviation from personal values and behaving unethically without being aware of it, deviant workplace behavior represents voluntary behavior, chosen by the individual (Robinson & Bennett, 1997). Namely, individuals may choose among different deviant behaviors, usually choosing the one that is least constrained, most feasible, or least costly, given the context (Robinson & Bennett, 1997). Since individuals choose such behavior, we can assume that deviant workplace behavior is rational and intentional behavior. Although both deviant workplace behavior and ethical blindness are context dependent (Bennett & Robinson, 2000; Palazzo et al., 2012) and may be manifested in the same unethical behavior (e.g., discussing confidential company information with an unauthorized person),

they differ in the level of awareness when engaging in the unethical behavior. Thus, the intentional nature represents the fundamental difference between deviant workplace behavior (chosen and, thereby, intentional, higher level of awareness) and ethical blindness (unintentional behavior, lower level of awareness).

Further, it is also important to distinguish between counterproductive work behavior and ethical blindness. Counterproductive work behavior is any intentional employee act that harms or intends to harm an organization and/or the organization's stakeholders, such as clients, coworkers, customers, or supervisors (Spector & Fox, 2005; Spector et al., 2006). Counterproductive work behavior includes the following behaviors: abusing others, doing work incorrectly, failing to notify superiors about work problems, destroying or misusing organizational property, and withdrawal (working less than is required by an organization) (Spector et al., 2006). Some of the mentioned behaviors can also be the outcomes of ethical blindness. For example, employees can also do their work incorrectly due to ethical blindness. However, as is the case with deviant workplace behavior, counterproductive behavior is intentional, whereas ethical blindness is unintentional. Ethically blind employees do not intend to harm an organization or an individual, although he/she may do so due to his/her blindness, while the main aim of counterproductive work behavior is to harm the organization or its stakeholders. Thus, counterproductive work behavior and ethical blindness are separate constructs that may or may not have the same outcomes.

2.3 MEASURE DEVELOPMENT

In developing the measure, I followed scale development procedure guides (DeVellis, 2003; Hinkin, 1998; Netemeyer, Bearden, & Sharma, 2003) for the development of a scale in accordance with the established psychometric principles for use in field studies. As discussed below, by using multiple methods and samples (Hinkin, 1998), a new measure of observed ethical blindness was developed and tested in interconnected steps.

2.3.1 Item generation

Following well-established scale development procedures (Hinkin, 1998; Netemeyer et al., 2003), an initial pool of items was generated. Initially, I conducted semistructured interviews with relevant informants in order to generate items with a high level of content validity that could then be further verified with surveys (Connelly, Zweig, Webster, & Trougakos, 2012). Interviews took place either face-to-face or on Skype, and all interviewees permitted the interviews to be recorded and transcribed.

Specifically, 17 employees in a variety of jobs (i.e., doctors, lawyers, managers, professors, teachers, engineers, project managers, financial consultants, and CEOs) who worked in different sectors (e.g., banking, education, health care, transport and logistics, law, and

information technology) were interviewed (see Appendix A). Two interviewees were located in Germany, three were located in Croatia, and all others were located in Slovenia. Nine interviewees were female and eight were male, and interviewees' organizational tenures ranged from two months to 12 years. I stopped recruiting additional participants once the new interviewees did not yield new or different information or experiences (Connelly et al., 2012).

I content analyzed the interview data. The results suggest that individuals engaged in a variety of aspects of ethical blindness. For example, some informants provided examples of when they had behaved unethically without being aware of it due to a lack of knowledge, information, and/or experience (illustrative response: "at the beginning, I did not know all the rules, and consequently, I gave completely wrong advice to my client...only when I learned all rules did I find that I was actually misleading my client"). Further, informants reported that they do not pay attention to ethical issues when performing routine tasks ("once I decide that it is morally okay to perform a certain action, I will always perform this activity without rethinking the moral issue"). Interestingly, most of the informants provided examples in which they justified their unethical behavior ("I can be very rude to my clients without any special reason... that happens to all... we are also only human, so this is a normal thing" or "I am not in a position to say no to my boss... I have kids, so I cannot afford to be without a job, and thus, do what is required of me"). Based on the interview data, a list of statements comprised the initial item pool. Next, the ethical blindness theory was consulted to supplement the item pool. Based on these inputs, a pool of 94 items was created.

2.3.2 Content validity evaluation

In order to evaluate the content validity, all items were reviewed by several judges (Hardesty & Bearden, 2004). First, six expert judges assessed the content and construct validity of the items (management professors and PhD students not familiar with the research) and evaluated the clarity and conciseness of each item's wording. Out of the 96 items that entered the first round of content validity evaluation, 42 items were deleted because judges argued that they were ambiguous, repetitive, or not directly related to ethical blindness; 18 items were slightly modified; and 36 items remained unchanged. Further, five items were added. The first round of content validity evaluation resulted in the retention of 59 items. In the second round of content validity evaluation, nine employees were given the definition of ethical blindness and asked to assess content validity as well as to judge the items as "clearly representative," "somewhat representative," or "not representative" of ethical blindness (Zaichkowsky, 1985). Items were retained when they were evaluated as at least "somewhat representative." In the second round, 21 items were deleted, 16 were slightly modified, three were added, and 22 remained unchanged. Item purification yielded 41 items for the pilot study.

2.3.3 Pilot study

As recommended by Netemeyer et al. (2003), a pilot study with a sample of 27 employees was conducted to reduce the item pool to a more reasonable number. The responses were analyzed via item analyses. Items that had low and high item-to-total correlations were candidates for elimination (Netemeyer et al., 2004; Nunnally & Bernstein, 1994). Eleven items had low item-to-total correlations and were thus candidates for elimination. However, I used statistical heuristics and content validity judgments to retain or delete items (Haynes, Nelson, & Blaine, 1999). Based on item-to-total correlations and judgment procedures, I eliminated five items with low item-to-total correlation. As a result of this process, 36 items survived.

2.3.4 Study 1

I conducted Study 1 to reduce the number of items by deleting those that did not meet psychometric criteria (Netemeyer et al., 2003). The online survey was composed of a list of the 36 items. Respondents were asked to indicate the extent to which they agreed/disagreed with each statement on a 7-point Likert scale. The scale opened with the following statement: “Sometimes at work....”

Altogether, 185 adults completed the online questionnaire. Based on missing data analysis, two questionnaires were excluded from further analysis due to missing values in more than 20% of the variables. The final sample consisted of 183 responses. Further, I used Little’s (MCAR) test (Little, 1988) to assess whether the data were missing completely at random (Hair, Black, Babin, & Anderson, 2010). I obtained statistically nonsignificant results (Chi-square [3938] = 4055,760, $p = 0.093$), confirming that there was no systematic pattern of missing values. Thus, I proceeded with the imputation of missing data.

Of 183 respondents, 147 were full-time employees, 21 were part-time employees, 11 were students with work experience, and four were retired. The average age was 33.3 years ($SD = 7.14$); the average years of work experience was 8.6 ($SD = 7.36$); and 29.5% had a bachelor’s degree, 43.7% had a master’s degree, and 16.9% had a doctorate degree. Of the respondents, 29.5% were men. The respondents worked in the following countries: Slovenia (40.4%), Croatia (25.7%), the United Kingdom (10.9%), Bosnia and Herzegovina (3.8%), Germany (6.6%), Italy (5.5%), and the United States (7.1%). Although respondents came from seven different countries, they all spoke English. Further, respondents worked in the following industries: accounting (1.6%), advertising (2.7%), banking (13.7%), chemical (0.5%), computers (1.1%), consulting (5.5%), cosmetics (0.5%), education (32.8%), energy (0.5%), entertainment and leisure (4.9%), financial services (2.7%), food, beverage, and tobacco (2.7%), health care (1.1%), legal (2.7%),

manufacturing (2.2%), publishing (2.1%), real estate (2.7%), service (10.9%), sports (1.1%), technology (2.7%), telecommunications (1.1%), and transportation (1.6%).

2.3.4.1 Exploratory factor analysis

Prior to conducting the factor analysis, I performed an internal consistency analysis. All items had high interitem correlations (> 0.4), suggesting that all items belonged to a common domain (Hinkin, 1998). In determining which items to select for the scale, I further considered the variance of the items. I eliminated two items with a variance below 1.5, as items with extremely low variances do not allow discrimination between individuals on the construct of interest (DeVellis, 2003), leaving me with 34 items.

I then conducted an exploratory factor analysis to analyze the interrelationships of the items and to suggest additional items for deletion (Hinkin, 1998). I used a principal axis factoring procedure that extracted the least number of factors that accounted for the common variance and an oblique rotation that allowed factors to correlate (Fabrigar, Wegener, MacCallum, & Strahan, 1999; Hair et al., 2010). The measure of sampling adequacy was .944, which showed that the correlation matrix was appropriate for principal axis factoring (Hair et al., 2010). I expected ethical blindness to be multidimensional given the theory and the results of the interview study, which revealed a different situation in which employees become ethically blind. However, I did not know which solution would best represent ethical blindness in terms of how many factors would exist or what they would consist of.

In the analysis, I rejected all items that did not load strongly on the primary factor (< 0.40) and items that cross loaded on multiple factors. The remaining items were those that demonstrated the highest factor loading. Out of the 34 items, 13 items loaded correctly and significantly on three factors. I reran an exploratory factor analysis. This analysis resulted in a three-factor solution, explaining 69.15% of the variance, which was an acceptable target (Hinkin, 1998). The Kaiser-Meyer-Olkin measure of sampling adequacy was 0.895, which showed that the correlation matrix was appropriate for principal axis factoring (Hair et al., 2010). Bartlett's test of sphericity was significant (Chi-square [78] = 1291.6, $p = 0.000$), indicating an overall significance of correlations within the correlation matrix (Hair et al., 2010). The 13 items exhibited factor loading greater than 0.40.

I further examined the communality statistics to determine the proportion of variance in the variable explained by each of the items (Hinkin, 1998). Items' communalities did not approach or exceed 1, though none were lower than 0.46, indicating no issues with the solution. Cronbach's alpha coefficients were above the 0.700 threshold (Hair et al., 2010) for all three factors and were as follows: 0.877, 0.836, and 0.854. The first ethical blindness factor describes behavior whereby employees are convinced that they have good justification for their unethical behavior and shift blame away from their own unethical behavior toward an external source. I labeled this dimension *rationalization* (five items). The second factor of ethical blindness involves instances wherein employees become ethically blind due to the fact that they forget to think about the ethics when they perform routine tasks. Thus, I labeled this dimension *routine* (four items). The third factor of ethical blindness describes behavior whereby employees unintentionally do something unethically due to lack of knowledge or experience. This dimension was labeled *ignorance* (four items). Correlations among the three factors in the exploratory factor analysis are listed in Table 9. Results of the exploratory factor analysis and reliability analyses are provided in Table 10).

Table 9: Correlations among factors of ethical blindness from EFA (Study 1)

Variables	F1	F2	F3
Rationalization (F1)	-		
Routine (F2)	0.525	-	
Ignorance (F3)	0.601	0.500	-

Table 10: Exploratory factor analysis—factor loadings, Cronbach’s alphas, and eigenvalues (Study 1)

	Rationalization	Routine	Ignorance
Factor 1: Rationalization			
1. I have to perform tasks that are against my personal values to keep my job.	0.613	-0.026	0.121
2. I have mixed feelings about what counts as right and wrong.	0.624	-0.062	0.222
3. I have to behave unethically to protect my coworkers.	0.899	-0.017	-0.056
4. I do unethical things to keep my job and justify this by saying, “If I do not do it, someone else will.”	0.873	0.089	-0.138
5. I do something against my values because I am under pressure to do so.	0.699	0.062	0.039
Factor 2: Routine			
6. I do not think much about ethics when performing tasks that I have a lot of experience with.	0.000	0.732	0.008
7. I do not think about the ethical component when using standardized procedures in my organization.	-0.092	0.870	-0.019
8. When making routine decisions, I forget to think about ethics.	0.202	0.651	0.094
9. I forget to pay attention to the ethical component of the activity I am performing.	0.201	0.472	0.144
Factor 3: Ignorance			
10. I do something unethical without even knowing it. I realize the wrongdoing after some time.	0.068	0.168	0.553
11. I unintentionally do something unethical due to lack of experience.	-0.023	-0.044	0.849
12. I behave unethically due to a lack of knowledge.	0.029	0.064	0.712
13. I unintentionally do something unethical.	0.002	-0.006	0.837
Cronbach’s alpha	0.877	0.836	0.854
Eigenvalues	6.275	1.397	1.318

Notes: Factor loadings larger than 0.40, Cronbach’s alpha for each ethical blindness dimension, and their related eigenvalues are displayed in bold.

To further assess the discriminant and nomological validity of the ethical blindness construct, the new measure was compared to other theoretically relevant constructs. The scores obtained by means of the new measure of ethical blindness were compared with scores obtained by means of scales of organizational and interpersonal deviance as developed by Bennett and Robinson (2000) as well as with the scale of counterproductive work behavior developed by Spector et al. (2006). I also measured one unrelated construct, the Grant and Sumanth (2009) scale of prosocial motivation behavior. I expected the new scale to have a moderately positive relationship with scores on organizational deviant behavior in the workplace and to be uncorrelated with prosocial behavior. Table 11 depicts the means, standard deviations, and correlations for the measures.

As expected, the three dimensions of ethical blindness correlated mostly positively with Bennett and Robinson's (2000) organizational deviance scale with the following correlations: rationalization ($r = 0.580$, $p = 0.000$), routine ($r = 0.356$, $p = 0.000$), ignorance ($r = 0.356$, $p = 0.000$). Further, the three dimensions of ethical blindness were moderately correlated with Bennett and Robinson's (2000) interpersonal deviance scale for rationalization ($r = 0.438$, $p = 0.000$), routine ($r = 0.268$, $p = 0.000$), and ignorance ($r = 0.288$, $p = 0.000$), and with Spector et al.'s (2006) scale of counterproductive work behavior for rationalization ($r = 0.479$, $p = 0.000$), routine ($r = 0.246$, $p = 0.001$), and ignorance ($r = 0.269$, $p = 0.000$). In terms of discriminant validity, two dimensions of ethical blindness did not show any correlations with prosocial motivation for rationalization ($r = -0.071$, ns) and ignorance ($r = -0.068$, ns), but showed slight correlation with the routine dimension of ethical blindness ($r = -0.174$, $p < 0.05$). These findings suggest that the new measure for the ethical blindness scale is robust and specific enough to focus respondents' attention on patterns of ethical blindness at work.

Table 11: Means, standard deviations, correlations, and reliabilities^{a,b}

Variables	Mean	SD	1a	1b	1c	2	3	4	5
1a. Rationalization	2.622	1.253	(0.877)						
1b. Routine	3.177	1.280	0.541***	(0.836)					
1c. Ignorance	3.171	1.292	0.576***	0.535***	(0.854)				
2. Interpersonal deviance	2.364	1.277	0.438***	0.268***	0.288***	(0.821)			
3. Organizational deviance	2.075	0.806	0.580***	0.377***	0.356***	0.562***	(0.828)		
4. Counterproductive work behavior	1.589	0.479	0.464***	0.246**	0.269***	0.668***	0.612***	(0.776)	
5. Prosocial motivation	5.728	1.016	-0.071	-0.174*	-0.068	-0.100	-0.076	0.010	(0.775)

Notes: ^a Coefficient alpha reliability estimates in parentheses on the diagonal. ^b ***p = 0.000, **p = 0.001, *p < 0.05

2.3.5 Study 2

I then included the proposed 13-item measure on a survey administered to a sample of 109 employees from Europe. 65.1% of respondents were female. Respondents ranged in age from 24 to 58 years, with a mean age of 33.9 years. The majority had graduated from some college (31.2%) or had a bachelor's degree (32.1%), while 18.3% of them had a master's degree, 4.6% had finished a PhD, and 13.8% had graduated from high school. The average number of years of work experience was 9.5 (SD = 7.83).

2.3.5.1 *Confirmatory factor analysis*

The appropriateness of the 13 items for capturing the three dimensions of ethical blindness was again tested with an exploratory factor analysis (principal axis factoring and oblique rotation). The measure of sampling adequacy was at .849, which shows that the correlation matrix is appropriate for principal axis factoring (Hair et al., 2010). The items loaded on three factors, as expected, accounted for 68.97% of the variance and had a loading of above 0.40 (Table 12). All three factors again demonstrated high internal consistency, with Cronbach's alpha coefficients of 0.908, 0.756, and 0.846.

I then conducted a confirmatory factor analysis using Mplus version 7.3. I wanted to assess the goodness of fit of the measurement model comparing two alternative measurement models (Jöreskog & Sörbom, 1989): a first-order one-factor structure, and a first-order three-factor structure. As expected, the first-order one-factor structure displayed poor fit (Chi-square [65] = 315.756; $p = 0.000$; CFI = 0.648; TLI = 0.577; RMSEA = 0.168). The first-order three-factor structure exhibited significant improvements in model fit statistics compared to the first model and showed that a three-dimensional model fit the data well (Chi-square [62] = 110.193; $p = 0.0002$; CFI = 0.932; TLI = 0.915; RMSEA = 0.058) since all indicators were at or above the recommended standards (Bagozzi & Yi, 2012; Browne & Cudeck, 1993; Hinkin, 1998). Table 13 shows a summary of the loadings.

Further, I wanted to test whether the first-order constructs (dimensions of ethical blindness) are reflections of the higher-order construct, ethical blindness. Means, standard deviations, internal consistency, and correlations between factors are presented in Table 14. The second-order three-factor model demonstrated the same model fit indices as the first-order three-factor model (Chi-square [62] = 110.193; $p = 0.0002$; CFI = 0.932; TLI = 0.915; RMSEA = 0.058). The summary of fit statistics for confirmatory factor analysis for alternative models is reported in Table 15.

Table 12: Exploratory factor analysis – factor loadings, Cronbach’s alphas, and eigenvalues (Study 2)

	Rationalization	Routine	Ignorance
Factor 1: Rationalization			
1. I have to perform tasks that are against my personal values to keep my job.	0.710	0.074	0.067
2. I have mixed feelings about what counts as right and wrong.	0.763	0.142	-0.102
3. I have to behave unethically to protect my coworkers.	0.821	0.051	-0.063
4. I do unethical things to keep my job and justify this by saying, “If I will not do it, someone else will.”	0.915	-0.052	0.011
5. I do something against my values because I am under pressure to do so.	0.832	-0.081	0.071
Factor 2: Routine			
6. I do not think much about ethics when performing tasks that I have a lot of experience in.	-0.149	0.128	0.809
7. I do not think about the ethical component when using standardized procedures in my organization.	0.185	-0.012	0.460
8. When making routine decisions I forget to think about ethics.	0.029	0.056	0.709
9. I forget to pay attention to the ethical component of the activity I perform.	0.394	-0.069	0.482
Factor 3: Ignorance			
10. I do something unethical without even knowing it. I realize the wrongdoing after some time.	0.064	0.581	0.161
11. I unintentionally do something unethical due to lack of experience.	-0.043	0.730	0.056
12. I behave unethically due to lack of knowledge.	0.042	0.831	-0.025
13. I unintentionally do something unethical.	0.022	0.832	-0.055
Cronbach’s alpha	0.908	0.756	0.846
Eigenvalues	5.324	1.318	2.324

Notes: Factor loading larger than 0.40, Cronbach’s alpha for each ethical blindness dimension, and their related eigenvalues are displayed in bold.

Table 13: Scale summary – factor loadings across studies

	EFA	CFA	CFA
	Study 1	Study 2	Study 3
Factor 1: Rationalization			
1. I have to perform tasks that are against my personal values to keep my job.	0.613	0.791	0.747
2. I have mixed feelings about what counts as right and wrong.	0.624	0.736	0.615
3. I have to behave unethically to protect my coworkers.	0.899	0.813	0.728
4. I do unethical things to keep my job and justify this by saying, “If I will not do it, someone else will.”	0.873	0.894	0.821
5. I do something against my values because I am under pressure to do so.	0.699	0.838	0.805
Factor 2: Routine			
6. I do not think much about ethics when performing tasks that I have a lot of experience in.	0.732	0.675	0.510
7. I do not think about the ethical component when using the standardized procedures in my organization.	0.870	0.582	0.724
8. When making routine decisions I forget to think about ethics.	0.651	0.726	0.871
9. I forget to pay attention to the ethical component of the activity I perform.	0.472	0.671	0.797
Factor 3: Ignorance			
10. I do something unethical without even knowing it. I realize the wrongdoing after some time.	0.553	0.685	0.714
11. I unintentionally do something unethical due to lack of experience.	0.849	0.762	0.726
12. I behave unethically due to lack of knowledge.	0.712	0.825	0.698
13. I unintentionally do something unethical.	0.837	0.795	0.839
Ethical blindness			
Rationalization	-	0.601	0.806
Routine	-	0.976	0.813
Ignorance	-	0.521	0.878

Table 14: Means, standard deviations, correlations, and reliabilities^{a,b,c}

Variables	Mean	SD	1	2	3	4	5
1. Rationalization	3.119	1.605	(0.905)				
2. Routine	3.399	1.247	0.597***	(0.756)			
3. Ignorance	3.279	1.318	0.313***	0.507***	(0.846)		
4. Age	33.798	7.495	0.236***	0.253**	0.212**	(NA)	
5. Gender	1.615	0.591	-0.227**	-0.067	-0.123	-0.082	(NA)

Notes: ^a Coefficient alpha reliability estimates in parentheses on the diagonal. ^b 1 = male, 2 = female. ^c ***p = 0.000, **p < 0.05

Table 15: Summary of fit statistics for confirmatory analysis for alternative models

	Model fit indices				
	Chi-Square*	df	CFI	TLI	RMSEA
First-order one-factor model	315.756	65	0.648	0.577	0.168
First-order three-factor model	110.193	62	0.932	0.915	0.058
Second-order three-factor model	110.193	62	0.932	0.915	0.058

Notes: *All chi-square significant at p < 0.001

2.3.6 Study 3

To further examine the construct validity of the scale, I conducted confirmatory analysis on a larger sample. I included the proposed 13-item measure on a survey administered to a sample of 178 employees from Europe, 61.8% of whom were female. Respondents ranged in age from 19 to 57 years, with a mean age of 35.04 years. The majority had a bachelor's degree (42.7.1%) or master's degree (33.1%), while 7.3% of them had finished a PhD, 7.3% had graduated from high school, and 3.9% had finished middle school. The average number of years of work experience was 9.3 (SD = 6.95).

2.3.7 Confirmatory factor analysis

The appropriateness of the 13 items for capturing the three dimensions of ethical blindness was again tested with an exploratory factor analysis (principal component analysis and varimax rotation). The measure of sampling adequacy was at 0.901. The items loaded on three factors, as expected, accounted for 64.88% of the variance and had a loading of above 0.40 (Table 16). All three factors again demonstrated high internal consistency, with Cronbach's alpha coefficients of 0.829, 0.794, and 0.818.

I then conducted a confirmatory factor analysis using Mplus version 7.3. I assessed the goodness of fit of the measurement model by comparing two alternative measurement models (Jöreskog & Sörbom, 1989): a first-order one-factor structure and a first-order three-factor structure. As expected, the first-order one-factor structure displayed poor fit (Chi-square [65] = 307.376; $p = 0.000$; CFI = 0.787; TLI = 0.744; RMSEA = 0.129). The first-order three-factor structure exhibited significant improvements in model fit statistics compared to the first model and showed that a three-dimensional model fit the data well (Chi-square [62] = 133.587; $p = 0.0000$; CFI = 0.937; TLI = 0.921; RMSEA = 0.062), since all indicators were at or above the recommended standards (Bagozzi & Yi, 2012; Browne & Cudeck, 1993; Hinkin, 1998). Table 13 shows a summary of the loadings.

Table 16: Exploratory factor analysis – factor loadings, Cronbach’s alphas, and eigenvalues (Study 3)

	Rationalization	Routine	Ignorance
Factor 1: Rationalization			
1. I have to perform tasks that are against my personal values to keep my job.	0.788	0.178	0.061
2. I have mixed feelings about what counts as right and wrong.	0.420	0.399	0.311
3. I have to behave unethically to protect my coworkers.	0.648	0.311	0.260
4. I do unethical things to keep my job and justify this by saying, “If I will not do it, someone else will.”	0.799	0.162	0.222
5. I do something against my values because I am under pressure to do so.	0.808	0.182	0.031
Factor 2: Routine			
6. I do not think much about ethics when performing tasks that I have a lot of experience in.	-0.059	0.74	0.817
7. I do not think about the ethical component when using the standardized procedures in my organization.	0.173	0.171	0.784
8. When making routine decisions I forget to think about ethics.	0.392	0.342	0.64
9. I forget to pay attention to the ethical component of the activity I perform.	0.400	0.262	0.608
Factor 3: Ignorance			
10. I do something unethical without even knowing it. I realize the wrongdoing after some time.	0.101	0.726	0.369
11. I unintentionally do something unethical due to lack of experience.	0.150	0.860	0.031
12. I behave unethically due to lack of knowledge.	0.344	0.601	0.303
13. I unintentionally do something unethical.	0.399	0.721	0.140
Cronbach’s Alpha	0.829	0.794	0.818
Eigenvalues	5.860	1.099	1.475

Notes: Factor loading larger than 0.40, Cronbach’s alpha for each ethical blindness dimension, and their related eigenvalues are displayed in bold.

Further, I also wanted to test whether the first-order constructs (dimensions of ethical blindness) are reflections of the higher-order construct, ethical blindness. Means, standard deviations, internal consistency, and correlations between factors are presented in Table 17.

Table 17: Means, standard deviations, correlations, and reliabilities^a

Variables	Mean	SD	1	2	3	4	5
1. Rationalization	2.744	1.262	(0.829)				
2. Routine	3.054	1.210	0.525***	(0.794)			
3. Ignorance	3.131	1.203	0.623***	0.567***	(0.818)		
4. Age	36.062	13.988	0.094	0.041	0.065	(NA)	
5. Gender	1.62	0.487	0.007	-0.088	-0.053	0.012	(NA)

Notes: ^a Coefficient alpha reliability estimates in parentheses on the diagonal. ^b1 = male, 2 = female.

***p = 0.000, **p < 0.05

The second-order three-factor model demonstrated the same model fit indices as the first-order three-factor model (Chi-square [62] = 133.587; p = 0.0000; CFI = 0.937; TLI = 0.921; RMSEA = 0.062). A summary of fit statistics for confirmatory factor analysis for the alternative models is reported in Table 18.

Table 18: Summary of fit statistics for confirmatory analysis for alternative models

	Model fit indices				
	Chi-Square*	df	CFI	TLI	RMSEA
First-order one-factor model	307.376	65	0.787	0.744	0.129
First-order three-factor model	133.587	62	0.937	0.921	0.062
Second-order three-factor model	133.587	62	0.937	0.921	0.062

Notes: *All chi-square significant at p < 0.001

2.4 DISCUSSION

Although recent models of ethical decision making explore how intuitive, unconscious, and automatic processes influence unethical behavior without individuals' awareness (Palazzo et al., 2012; Sonenshein, 2007; Welsh & Ordonez, 2013), to date there is little theory explaining the mechanisms through which these processes influence ethical behavior. Despite the fact that ethical blindness has been identified as a construct that can help us to better understand unconscious, unintentionally unethical behavior, it is still a quite largely unexplored area in the field of research. Little theoretical and empirical work has been done to understand the ethical blindness in organizations or its connection to related constructs. Thus, the purpose of the present study was to identify and empirically study the multidimensional nature of ethical blindness at work – that is, to develop a survey instrument that could assess the ethical blindness at work. Thereby, the study contributes to the understanding of ethical blindness within organizations by conceptualizing, developing, and testing a comprehensive scale to measure ethical blindness.

To ensure that the measure was psychometrically sound, we followed a systematic procedure (e.g., Hinkin, 1998) for developing new measures, using several steps and multiple types of samples to empirically validate the measure of ethical blindness. Interviews described how ethical blindness is manifested, and the first study suggested that there are three different types of ethical blindness at work – rationalization, routine and ignorance – that are demonstrably separate from organizational and interpersonal deviance as well as counterproductive work behavior. In the second study, confirmatory factor analysis provided evidence that the hypothesized three-factor structure fit the data. Finally, in the third study, confirmatory analysis was conducted on a larger sample (study 3), providing additional evidence that the hypothesized three-factor structure fit the data. Thus, based on qualitative data and three quantitative data sets, empirical evidence suggests that ethical blindness is a multidimensional construct consisting of the 13 items measuring the following dimensions: rationalization (five items), routine (four items) and ignorance (four items).

2.4.1 Practical implications

Measuring ethical blindness in the workplace is essential for managers to determine the level of ethical blindness in their organizations and to decide how to enhance the ethical behavior of their employees. This study provides empirical evidence that ethical blindness consists of three dimensions: rationalization, routine, and ignorance. Thus, if managers are interested in enhancing ethical behavior, they should create a safe work environment in which employees will not be forced to behave unethically and to provide justification for such behavior. Namely, rationalization items suggest that employees sometimes feel pressure to do something unethically in order to keep their job or have mixed feelings

about what counts as right or wrong. Managers should also emphasize the importance of ethical behavior and should create a work environment in which unethical behavior is undesirable and sanctioned. Further, the routine dimension of ethical blindness underlines that managers should highlight the importance of the ethical component when performing routine tasks, otherwise employees may unintentionally forget to think about ethics when performing such tasks. In addition, managers should decrease ignorance by sharing knowledge among employees, drawing attention to important information and knowledge, and supervising employees who may become ethically blind due to the lack of experience.

2.4.2 Limitations and Future Research

Although this research has several contributions, some limitations should be acknowledged. One possible limitation of this study is that the study was based entirely on self-reported data. Despite the fact that some criticisms of this methodology have been raised (Sackett, Burris, & Callahan, 1989), which are centered mainly on social desirability biases (Bennett & Robinson, 2000), considerable evidence supports the validity of self-reports (Spector, 1992). Further, respondents remained anonymous, which has been found to reduce the level of social desirability bias in business ethics research (Fernandes & Randall, 1992). In addition, the nature of the issue being investigated necessitated the use of self-reported data because it is difficult to ask coworkers or supervisors to assess an employee's ethical blindness. Namely, by definition, ethical blindness is described as an individual's temporary inability to see the ethical dimension of a decision at stake (Palazzo et al., 2012), which results in unintentional unethical behavior. However, it is very difficult for an observer (e.g., coworker, supervisor) to assess whether an individual behaved unethically intentionally or unintentionally. Thus, observer ratings would most likely reflect the observer's broad impression about the individual's behavior and would not be able to accurately assess whether the individual intentionally or unintentionally behaved unethically.

Although the 13-item measure used in the study performed well, further analyses and testing of the scale are necessary to establish more definitive proof of reliability and validity. We conducted a pilot study and collected three independent samples; however, additional studies should replicate the measure on other, bigger samples to further validate and generalize the measure. Namely, the process of validating a construct is an ongoing process, and only over time and based on evidence from numerous studies will we be able to support the validity of this measure (Bennett & Robinson, 2000; Schwab, 1980). Furthermore, I established the discriminant validity of ethical blindness from related constructs (i.e., organizational and interpersonal deviance, counterproductive work behavior); however, discriminant validity against some other related scales should also be assessed.

Considering the results, which revealed three dimensions of ethical blindness, further research should explore whether ethical blindness is not just a state but also a process. The proposed dimensions of ethical blindness may represent three different stages with regard to the degree of ethical blindness in such a process. In the first step, people lack information, knowledge, and experience and thereby unintentionally behave unethically (i.e., are ethically blind) because they forgot the rules. In the second step, they might understand what is right and wrong but they start to rationalize and to believe their own rationalization if it is used repeatedly. In the third step, bad practices get routinized and individuals lose the ability to see the wrongdoing; they do not even need rationalizations anymore.

Future research may also specify antecedents and consequences of ethical blindness at work. I expect that different types of ethical blindness (i.e., rationalization, routine, and ignorance) have different individual and organizational antecedents and consequences. For example, clear goals and rules should decrease ignorance ethical blindness because individuals who are faced with a specific goal know exactly which information they need to achieve a given goal. On the other hand, clear goals and rules may increase routine ethical blindness because individuals who have clear goals and rules may forget to think about the ethical component of goals or rules when they are performing their tasks. Furthermore, different types of ethical blindness may have different durations. Ignorance ethical blindness will decrease when individuals obtain additional knowledge or experience, whereas routine ethical blindness will decrease when individuals change the way they perform their routine work, which may take longer than obtaining additional knowledge or experiences.

3 ANTECEDENTS AND CONSEQUENCES OF FLOW: EXAMINING THE RELATIONSHIP BETWEEN GOAL CLARITY, FLOW, TIME PRESSURE, AND ETHICAL BLINDNESS

This chapter aims to examine the antecedents and negative consequences of flow at work. Drawing on the goal-setting theory, I first proposed that employees who are faced with clear and specific goals will more likely experience flow. Furthermore, I proposed that flow, stimulated by clear and specific goals, promotes ethical blindness. Specifically, I examined flow as a mediating variable that strengthens the relationship between goal clarity and ethical blindness. In addition, I proposed that time pressure moderates the relationship between goal clarity and ethical blindness, mediated by flow. I tested these hypotheses in a field study among 151 employees. I found that goal clarity is negatively associated with ethical blindness. Moreover, I found that flow mediates the relationship between goal clarity and ethical blindness and that time pressure moderates the indirect relationship between goal clarity and ethical blindness, as mediated by flow. However, I proposed a positive association among goal clarity, flow, time pressure, and ethical blindness, but the results revealed a negative association among goal clarity, flow, time pressure, and ethical blindness. I discussed the implications of these results for future research and practice.

3.1 INTRODUCTION

Flow is an engrossing and enjoyable state that occurs when individuals feel challenged and are fully absorbed in their current activity (e.g., Bakker, 2008; Csikszentmihalyi, 1999). Csikszentmihalyi and LeFevre (1989) found that work is a major source of flow for adults. Flow at work has been shown to be related to positive, organizationally relevant outcomes (Debus, Sonnentag, Deutsch, & Nussbeck, 2014), such as better performance (e.g., Engeser & Rheinberg, 2008), creativity (e.g., Moneta, 2012; Sosik, Kahai, & Avolio, 1999), learning (e.g., Csikszentmihalyi & LeFevre, 1989), increased communication (e.g., Trevino & Webster, 1992), and increased exploratory behavior (e.g., Ghani & Deshpande, 1994; Webster, Trevino, & Ryan, 1993).

Flow is perceived as a positive phenomenon. Many scholars and practitioners share a strong interest in finding factors that promote flow (e.g., Bakker, 2005; Demerouti, 2006; Jackson, Thomas, Marsh, & Smethurst, 2001; Novak, Hoffman, & Duhachek, 2003). Namely, individuals who often experience flow at work sense these positive consequences of flow, which also affects the organization by increasing creativity at work, commitment to work, and organizational spontaneity (Ceja & Navarro, 2011). Therefore, organizations should seek factors to promote flow at work. However, according to Swann, Keagan, Piggott, and Crust (2012), “the factors that instigate, maintain, prevent or interrupt flow are

much less clearly understood” (p. 808). Thus, I rely on goal-setting theory (Locke, 1968) and propose goal clarity (i.e., clear and specific goals) as a possible antecedent of flow.

However, is flow, stimulated by clear and specific goals, always beneficial? We can find examples of people who enjoyed doing unethical things. For example, Hitler had a clear, specific goal and he perceived himself “as an intellectual and creative giant” (Glad, 2002, p. 6). The most surprising fact is that Hitler, like many other tyrants, also enjoyed many of the cruelties for which he was responsible (Glad, 2002). He had a specific goal and enjoyed the implementation of this specific but horrible goal.

We can also find another example of individuals with normal or even high levels of integrity and the ability for moral reasoning who also enjoyed being unethical. Petra Majdič, a very successful Slovenian cross-country skier, also had a clear and specific goal: to get a medal at the 2010 Winter Olympics. Despite broken ribs that pierced her lung and caused her excruciating pain, she finished third to win the bronze medal in the final. She wanted to get a medal while doing something she really enjoyed and into which she invested her time and dreams, and she did it. But was she ethical to herself?

To date, scholars have mainly praised and empirically tested the positive aspect of flow (e.g., Cseh, Phillips, & Pearson, 2015; Demerouti, Bakker, Sonnentag, & Fullagar, 2012). Only a few studies have highlighted the negative aspect of flow experience by showing that individuals can experience flow when engaging in antisocial activities (e.g., crime and warfare; Keller & Bless, 2008), addictive or wasteful activities (Csikszentmihalyi, 1999), and activities that are destructive to the self or/and work/culture (Nakamura & Csikszentmihalyi, 2002). We need to gain more knowledge regarding negative consequences of experiencing flow before fully embracing the stimulating recommendation to promote experiencing flow in organizations.

As can be seen from the above examples, clear and specific goals may promote flow at work and all the positive consequences of experiencing flow at work. However, specific goals affect the increased focus on the task and may cause individuals to ignore the ethical components (Tenbrunsel & Messick, 1999). Therefore, according to Keller and Bless (2008), “Flow is not necessarily related to positive ethical or social consequences because flow experiences can become addictive (e.g., gambling, video games) and flow can be experienced when individuals engage in antisocial activities (e.g., crime and warfare).”

The second intended contribution of this chapter is to explore the negative consequences of flow. The purpose of this chapter is not to contradict positive aspects of flow but rather to test the possibility of the negative effect of flow when applied to ethical behavior. The aim of this study is to explain the relationship among goal clarity (as a possible antecedent of flow), flow per se, and ethical blindness, defined as “the decision maker’s temporary

inability to see the ethical dimension of a decision at stake” (Palazzo, Krings, & Hoffrage, 2012, p. 324). Therefore, I will address the question of why good employees, with clear and specific goals, sometimes enjoy behaving unethically.

Namely, studies have found that clear and specific goals are far better than “do your best” goals because they motivate greater effort and persistence (e.g., Locke & Latham, 2006). Goal clarity may influence employees’ task performance “by focusing their attention on the specified objective and stimulating task-related effort” (Barsky, 2008, p. 69). However, goals may also have unintended consequences beyond enhancing task performance (Locke & Latham, 1990). I propose that unintentional unethical behavior (i.e., ethical blindness) is a possible unintended consequence of goal clarity.

In addition, goal clarity promotes flow at work (Salanova, Bakker, & Llorens, 2006), as it provides clear information about what is expected to be done (Fullagar & Kelloway, 2009). Thus, when individuals have clear and specific goals, they will more likely experience flow and thereby become fully concentrated on the given task. When in flow, individuals ignore all irrelevant information that may be impeding (Beard & Hoy, 2010; Csikszentmihalyi, 1991; Jackson & Hanin, 2000), so their awareness becomes bounded. I propose that because of the bounded awareness caused by flow, individuals may become ethically blind and behave unethically without being aware of it. Thereby, I propose that flow is a possible answer to the question of why, or through what mechanisms, do goals influence (un)ethical behavior (Barsky, 2008).

3.2 THEORY AND HYPOTHESES DEVELOPMENT

From the previous section, we know that ethical blindness is defined as “the decision maker’s temporary inability to see the ethical dimension of a decision at stake” (Palazzo et al., 2012, p. 324). Ethically blind individuals may behave unethically without being aware of it (Palazzo et al., 2012). Further, they may be even convinced that they are doing the right thing and will thereby continue to behave unethically (Eldred, 2012; Palazzo et al., 2012). Therefore, ethical blindness increases the risk of unethical behavior, resulting in financial, reputational, and emotional costs for organizations (Karpoff, Lee, & Martin, 2008). However, our understanding of how ethical blindness occurs remains limited.

The aim of this chapter is to deepen our understanding about the factors that promote ethical blindness. Specifically, I draw on flow and goal-setting theory to explain the mechanisms that promote ethical blindness. In the following section, I first discuss the theory and research concerning the relationship between specific goals and ethical blindness. I then theorize on how flow mediated this relationship. Finally, I consider how time pressure moderates the relationship between specific goals and ethical blindness, mediated by flow.

3.2.1 Goal clarity and ethical blindness

Goals present an end state toward which an individual strives and serve as immediate regulators of action and human behavior (Erez & Kanfer, 1983). They provide a standard or target toward which employees should strive (Latham, 2012) and are thereby perceived as a contextual factor through which organizations can influence an employee's behavior and performance (Cianci, Klein, & Seijts, 2010; Kaptein, 2012; Locke, 1968). Thus, goal-setting theory may help us answer the question of how and under which conditions individuals with normal levels of integrity and the ability for moral reasoning behave unethically without being aware of it (i.e., being ethically blind). I propose that goal clarity stimulates ethical blindness in organizations. I define goal clarity as the degree of quantitative precision with which the goal is specified (Barsky, 2008) and the degree to which the goal is clear, free from confusion or doubt.

The Ford Pinto case can serve as an illustrative example of how goal clarity can promote ethical blindness. Namely, back in the sixties, the Ford Motor Company set a clear goal to their engineers: produce a car for less than 2,000 dollars in a record time of 25 months (compared to the industry average of 43 months; Gioia, 1992; Kaptein, 2012). Thereby, the company affected the behavior of the engineers who were expected to achieve this clearly defined goal. The engineers achieved the set goal and produced the Ford Pinto. However, in order to achieve the clearly specified goal, they ignored the results of the safety tests, which showed that there was an increased risk of explosion upon rear-end collision, and introduced the car to the market (Birsch & Fielder, 1994; Kaptein, 2012). The company focused its attention to the set goals, neglected goal-irrelevant information (and thereby the ethical component of its decision), and thus a total of 53 individuals were killed (Gioia, 1992; Kaptein, 2012).

Bazerman and Tenbrunsel (2011) acknowledged that exact production quantities (i.e., goal clarity) may encourage employees to neglect other areas, take undesirable risks, and may thereby engage in more unethical behavior than they would otherwise. Similarly, Kaptein (2012) argued that the focus on a goal may become fixation, and other important things may fall by the wayside, causing tunnel vision and leading to irrational and unethical behavior. Goals may thus cause employees to frame their decisions in a too narrow and rigid manner, thereby causing ethical blindness (Palazzo et al., 2012).

In addition, goals direct attention and effort toward goal-relevant activities and away from goal-irrelevant activities they have an energizing function, affect persistence, and finally, indirectly affect the action by leading to arousal, discovery, and use of task-relevant knowledge (Locke & Latham, 2002). Thus, the presence of goal clarity increases arousal, focuses attention on clearly specified goals, and provides information about desirable behavior in an organization (Heath, Larrick, & Wu, 1999). Specific goals (i.e., goal clarity)

“can focus attention so narrowly that people overlook other important features of a task” (Ordóñez, Schweitzer, Galinsky, & Bazerman, 2009, p. 9). Thus, goal clarity may cause *inattentive blindness*, defined as an inability to perceive important stimulus because we are focusing our attention to something else (e.g., setting goals; Mack & Rock, 1998; Ordóñez et al., 2009). Namely, according to Barsky (2008), individuals who have specific goal will give little or no attention to outcomes or behaviors that are not specified in the goal-setting process.

In order to avoid ethical blindness, individuals have to always pay attention and recognize ethical issues when making decision (Barsky, 2008). For example, Ford’s engineers did not pay attention to the potential ethical consequences and thereby made a wrong, unethical decision. Similarly, Enron executives also had specific revenue goals and were rewarded with large bonuses for meeting them (Ackman, 2002). By focusing on revenue, they disregarded the ethical component and drove the company into bankruptcy (Ordóñez et al., 2009). Thus, if given goals do not explicitly require ethical behavior, individuals may focus their attention only on the specified goals, paying little or no attention to the ethical components. In other words, goal clarity may stimulate individuals to focus their attention only on clearly specified task and to ignore the ethical component, increasing the likelihood of ethical blindness. Hence, I hypothesize as follows:

Hypothesis 1: Goal clarity is positively associated with ethical blindness.

In what follows, I describe the conditions under which goal clarity influences ethical blindness. I first explain how flow mediates relationships between goal clarity and ethical blindness and then examine whether time pressure strengthens the impact of flow on ethical blindness.

3.2.2 The mediation role of flow

Goal clarity and flow. Flow is a state of complete absorption in an activity characterized by total concentration on an activity and an intrinsically enjoyable experience of total engagement and involvement (Csikszentmihalyi, 1975; Ghani & Deshpande, 1994; Pearce, Ainley, & Howard, 2005). According to Bakker (2005), flow is characterized by absorption, work enjoyment, and intrinsic work motivation. Absorption refers to a state of total concentration in which awareness is narrowed down to the activity itself, everything else is forgotten, and all distractions are excluded from consciousness (Csikszentmihalyi, 1991; Chu & Lan, 2010); in short, individuals are totally immersed in their work (Bakker, 2008). Individuals who experience flow at work usually enjoy their work and feel happy; therefore, they “make positive judgments about the quality of their working life” (Bakker, 2008, p. 401). Furthermore, intrinsic motivation refers to “performing a certain work-

related activity with the aim of experiencing the inherent pleasure and satisfaction in the activity” (Bakker, 2008, p. 401).

Several studies have demonstrated that goal clarity facilitates flow experience (Fullagar, Knight, & Sovern, 2013; Pilke, 2004; Quinn, 2005). For example, Sánchez-Franco and Roldán (2005) found that flow occurs during goal-directed activities and thereby provides evidence that clear goals can stimulate flow experience. Jackson and Roberts (1992) also found that a task-involved goal orientation is positively related to flow. Similarly, in their longitudinal study, Salanova, Bakker, and Llorens (2006) also found that clear goals facilitated work-related flow over time.

Clear goals refer to a feeling of certainty about what one is going to do. In order to experience flow, goals must be specific and difficult enough to pose a challenge (Csikszentmihalyi, 1990, 1999, 2000). According to Procci, Singer, Levy, and Bowers (2012), clear goals provides structure and drives activity because when individuals have clear goals they have the knowledge of overall objectives and they know what to strive for. In order to experience flow, individuals have to have a clear understanding of what needs to be done (Csikszentmihalyi, 1996; Jackson & Marsh, 1996). Thus, flow is likely to occur when individuals are faced with a task that has specific goals that require specific responses (Csikszentmihalyi, 1997).

When faced with clear goals, individuals know what they should do, how to do it, and can appropriately channel their attention (Csikszentmihalyi, Abuhamdeh, & Nakamura, 2005). Clear information about what needs to be achieved will help individuals fully concentrate on the implementation of pursued goals (Csikszentmihalyi, Kolo, & Baur, 2004; Fullagar & Mills, 2008). Further, goal clarity encourages involvement in the implementation of activities and the focus on relevant stimuli, thereby promoting flow (Csikszentmihalyi, 1991).

While experiencing flow, awareness is narrowed down to the activity itself; everything else is forgotten and all distractions are excluded from consciousness (Chu & Lan, 2010; Csikszentmihalyi, 1991). As aforementioned, clear and specific goals direct an individual’s attention toward a desired end state, mobilize an individual’s effort and persistence (Kleingeld, van Mierlo, & Arends, 2011), and narrow an individual’s focus and awareness down to the activity itself.

In addition, when individuals know exactly what they need to achieve, they are able to make positive judgments about the quality of their work life (Aleksić, Černe, Dysvik, & Škerlavaj, 2015). Thus, they should experience higher levels of work enjoyment. Clear goals will encourage individuals to experience work enjoyment because they highlight aspects of individuals’ work roles to which they should attend (Locke & Latham, 1990)

and provide clear information about what individuals should do. Therefore, individuals can develop a proper skill set to address the given goals, which enhances flow experience and the quality of their work experience (Aleksić et al., 2015).

Flow and ethical blindness. When in flow, individuals focus their attention on a specific activity to the point of becoming totally absorbed in it; their awareness is narrowed down to the activity itself, and individuals center their attention on a limited stimulus field and exclude all other thoughts and emotions (Carpentier, Mageau, & Vallerand, 2012; Csikszentmihalyi, 1975; Csikszentmihalyi & Wolfe, 2000; Dietrich, 2004; Hsu & Lu, 2004). Focused attention on the relevant stimuli allows them to be fully focused and involved (i.e., physically, mentally, or emotionally) in the implementation of activity so that nothing else seems to matter at that moment (Csikszentmihalyi & Rathunde, 1993) and no surplus attention is left to monitor any stimuli (e.g., thoughts or perceptions) irrelevant to the task at hand (Chen, 2006; Chen, Wigand, & Nilan, 1999; Csikszentmihalyi, 1999).

When in flow, individuals are so deeply involved in an activity that their actions feel spontaneous and almost automatic (Csikszentmihalyi, 1996, 1997, 2000). Taken together, flow experience narrows awareness and stimulates individuals to focus their attention on the activity, leading to a spontaneous, effortless, almost automatically implementation of the activity. When in flow, individuals have a strong sense of what has to be done (Csikszentmihalyi, 1991; Jackson & Hanin, 2000; Fullagar & Mills, 2008). They ignore all irrelevant information that may be impeding (Beard & Hoy, 2010; Csikszentmihalyi, 1991; Jackson & Hanin, 2000), causing their awareness to become bounded. Thus, if ethics are not directly related to the activity, individuals may ignore the ethical component without being aware of it. Due to the bounded awareness caused by flow, the ethical dimension of a decision may not be visible to individuals who are experiencing flow during the implementation of the activity. Thus, flow may lead to a temporary inability to see the ethical dimension of the activity at stake.

Further, when in flow, individuals become one with the activity and are not concerned about the judgment of others because all concern for the self disappears (Aubé, Brunelle, & Rousseau, 2014; Fullagar & Kelloway, 2009). Thus, they will evaluate the implementation of the activity through their own perspective and will become blind to other perspectives. As aforementioned, a too narrow perspective may lead to ethical blindness (Palazzo et al., 2012).

Moreover, flow-inducing activities push individuals to perform at their maximum potential, which typically elicits positive reactions (Burriss & Lai, 2012). Flow is so satisfying, valuable, and positive that individuals want to repeat the activity continually in order to continually experience flow and thereby meet greater challenges (Csikszentmihalyi, 1988; Jackson & Csikszentmihalyi, 1999; Marin & Bhattacharya,

2013). In order to continually experience flow, individuals have to constantly seek to master new challenges and develop greater levels of skills (Admiraal, Huizenga, Akkerman, & Ten Dam, 2011; Massimini & Delle Fave, 2000; Shernoff, Csikszentmihalyi, Shneider, & Shernoff, 2003).

For example, once surgeons master simple techniques and surgeries, in order to experience flow again, they will seek new challenges (i.e., more difficult surgeries). However, more difficult surgeries are also riskier. According to Csikszentmihalyi (1990), flow also occurs during the performance of activities that involve high levels of risk and expertise. Thus, surgeons may be motivated to propose and perform more risky techniques during surgery. However, due to flow, they may become too focused on the surgery itself and may convince themselves that a risky surgery is the best option for the patient. In extreme cases, they may unintentionally neglect the patient's safety and be convinced that they are doing the right thing (i.e., become ethically blind). Thus, I hypothesize as follows:

Hypothesis 2: Flow mediates the association between specific goals and ethical blindness.

3.2.3 The moderating role of time pressure

The interactionist model posits that ethical decision making in organizations is explained by the interaction of individuals and situational components (Trevino, 1986). Thus, I further propose that time pressure, a situational factor in organizations that can influence the (un)ethical behavior of ordinary employees (Trevino & Brown, 2004), will strengthen the association between clear goals and ethical blindness, mediated by flow.

Time pressure is defined as “either subjectively perceived time pressure or the imposition of a deadline” (Amabile et al., 2002, p. 1). Some individuals need pressure in order to achieve the flow experience and may seek out it out (Kaptein, 2012). According to Kaptein (2012), some individuals can get the most out of themselves when faced with pressure, and the pressure will enable them to achieve flow, thereby causing them to lose themselves in their work. Even when faced with time pressure, individuals can experience flow and focus their attention on the challenging activity. Thus, time pressure can promote flow at work.

Moreover, high time pressure may be perceived as a new challenge that will allow individuals to experience flow again. When in flow, the notion of time is altered, and depending on the activity being performed, time may seem to pass more or less quickly (Aubé et al., 2014). Therefore, when in flow, a sense that the way time passes is disoriented (Csikszentmihalyi, 1990, 1991, 1997). However, external pressure can significantly reduce individuals' acknowledgement that they did something wrong (Snyder & Higgins, 1988). Pressure may thereby cause individuals to be unaware of their misperception and even be convinced that they are doing the right thing (Hall, 2010). For

example, Eldred (2012) argued that time pressure reduces the amount of time that a lawyer will have to decide whether and how to investigate each case. When under time pressure, lawyers, who often experience flow at work, can be expected to be more susceptible to their own automatic biases in favor of self-interest and may thereby be unethical to their client (Eldred, 2012).

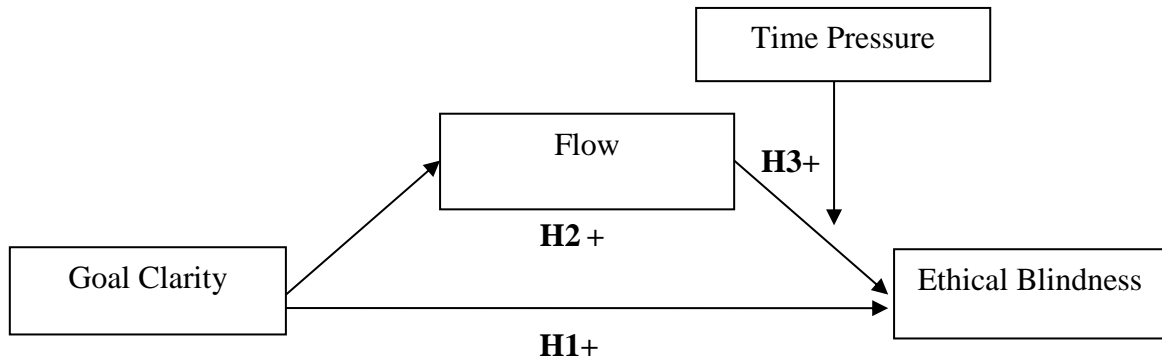
Although principled individuals are more likely to resist external pressure and behave consistently with their moral judgments, even when faced with pressures (Thoma, 1994), a majority of individuals find it difficult to follow through and do what is right when faced with pressures from the work environment (Trevino & Brown, 2004). When in flow, individuals who are faced with time pressure may deviate from their own values and principles and not being aware of it (i.e., become ethically blind). As noted before, flow can narrow an individual's perspective. However, time pressure can further narrow an employee's perspective (Lämsä & Takala, 2000) and thereby promote ethical blindness.

The Ford Pinto case can be used again as an illustrative example. Ford's engineers had a clear and specific goal to produce a car for less than 2,000 dollars in a record time of 25 months. Based on flow theory, it could be argued that the engineers, who often experienced flow at work, perceived this goal as a new challenge that should be mastered. However, this goal also included time pressure. Engineers were challenged to produce a car in 25 months, whereas the industry's average time needed for the production of a car was 43 months. Thus, it could be argued that Ford's engineers were facing high time pressure. The engineers knew that the car was not safe, but because they were under time pressure to introduce the car to the market, they neglected the safety issues. Would they reach the same decision if they were not under time pressure and had 43 months to produce the car?

Previous studies have shown that time pressure has a negative impact on ethical decision making (Darley & Batson, 1973; Moberg, 2000; Sweeney, Arnold, & Pierce, 2010). According to Sauser (2005), pressure leads to many temptations to cut corners ethically, since individuals are more likely to use heuristics (or short cuts) when faced with time pressure (Payne, Bettman, & Johnson, 1988). In addition, Trevino (1986) argued that individuals who perceive high time pressure are less inclined to pay attention to ethical standards than those who have sufficient time at their disposal. When faced with time pressure, managers do not have the luxury to ponder their decision in terms of ethicality (Sauser, Jr., 2005). Time pressure creates the need for rapid judgment (Cohen, 2004) and may cause moral blindness (Kaptein, 2012). Individuals who experience flow when implementing the goal-related activities may ignore the ethical component when faced with high pressure. Thus, I predict that time pressure will enhance the impact of flow on ethical blindness. Hence, I hypothesize as follows:

Hypothesis 3: Time pressure moderates the indirect relationship between clear goals and ethical blindness, as mediated by flow. The higher the time pressure, the more positive the relationship.

Figure 11: Summary of Hypothesis ^a



^a In Hypothesis 1 I propose direct relationship between goal clarity on ethical blindness. I propose and depict a mediating effect of flow and moderating effect of time perspective on the indirect relationship between goal clarity and ethical blindness, as mediated by flow.

3.3 METHODS

3.3.1 Sample and Procedures

Empirical data used in the analysis were collected via self-administrated questionnaires that were e-mailed to European employees. All respondents were assured anonymity, and some items in the questionnaire were reverse coded. Altogether, 168 employees responded to the survey. Seventeen questionnaires were excluded from further analysis due to missing values in more than 10% of variables. The final sample consisted of 151 responses. About 38% of the respondents were male, and about 22% were younger than 29 years old ($M = 36.29$, $SD = 10.59$). Thirty-three percent of the respondents reported fewer than 5 years of work experience ($M = 9.29$, $SD = 7.64$), and 84% were employed full time, 11% were employed part time, and the rest were unemployed. A total of 34% of respondents reported having a bachelor's degree, and 38% of respondents reported having master's degree.

3.3.2 Measures

Unless otherwise noted, 7-point Likert-type scales ranging from 1 ("never") to 7 ("always") were used in the study. The following is a description of the measurement scales used for focal and control variables.

Goal clarity. Goal clarity was self-reported and assessed with a four-item Goal Setting Questionnaire developed by Locke and Latham (1984). Representative items included "I

understand exactly what I am supposed to do on my job” and “I have specific, clear goals to aim for on my job.” ($\alpha = 0.77$).

Flow. Flow was self-reported and assessed with a 13-item Work-Related Flow scale (WOLF) developed by Bakker (2008). The scale opens with the following statement: “The following statements refer to the way in which you experienced your work during the last two weeks.” It further included items such as “I get carried away by my work,” “I do my work with a lot of enjoyment,” and “I get my motivation from the work itself and not from the reward for it.” ($\alpha = 0.91$).

Perceived time pressure. Perceived time pressure was measure that used five items proposed by Putrevu and Ratchford (1997) in which $\alpha = 0.85$. I slightly modified the items to comply with the research context. Specifically, I added “When working” to the five items. Sample items include “When working ... I do not have enough time to complete what I should do” and “I often feel in a hurry.” ($\alpha = 0.85$).

Ethical blindness. Ethical blindness was also self-reported and assessed with a 13-item Ethical Blindness scale developed in Chapter 2. A sample item was as follows: “I do something unethical without even knowing it. I realize the wrongdoing after some time.” ($\alpha = 0.89$).

Control variables. Participants’ age, gender, education, work experience, and employment status were included as control variables.

3.3.3 Results

All data were self-reported and collected through the same questionnaire over the same period of time. Thus, I conducted two post hoc statistical tests to test the presence of common-method bias before testing the proposed relationships. Harman’s one-factor test revealed that one factor did not account for a majority of the variance (24%), suggesting that the common-method variance is not of great concern (Chang, Van Witteloostuijn, & Eden, 2010; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). In addition, I performed a confirmatory factor analysis (CFA) by modeling all items as the indicators of a single factor. The one-factor CFA model showed that the single factor did not fit the data well (Chi-square [1034] = 5001.399; $p = 0.000$; CFI = 0.284; TLI = 0.252; RMSEA = 0.159), suggesting that common-method variance is not largely responsible for the relationship among proposed variables (Mossholder, Bennett, Kemery, & Wesolowski, 1998). Results of both post hoc statistical tests suggest that the common-method variance is unlikely to confound the interpretations of results; thus, I tested the proposed relationships.

Table 19 (on p. XY) provides means, standard deviation, correlations, and reliability coefficients for the key study variables. Based on Cronbach's alpha coefficients, all measurement scales were internally consistent. They all exceeded the 0.70 criterion established in the literature (Hair, Anderson, Tatham, & William, 1998).

I used a four-step process suggested by Barron and Kenny (1986) to assess the mediating role of flow on the association between clear goals and ethical blindness (see Table 20). In the first step (see Model 1 in Table 20), in addition to other control variables, I entered clear goals to establish that the independent variable X (goal clarity) influenced the dependent variable Y (ethical blindness). The results show that clear and specific goals are negatively and significantly related to ethical blindness (Model 1: $\beta = -0.33$, $SE = 0.10$, $p < 0.01$). Thus, Hypothesis 1 is not supported, since I proposed a positive association between clear goals and ethical blindness. The second step (Model 2) was to establish that the independent variable X (goal clarity) influenced the mediator M (flow). Supporting Step 2 of mediated relationship, clear goals were positively related to flow (Model 2: $\beta = 0.34$, $SE = 0.09$, $p < 0.01$). In the third step (see Model 3 in Table 20), I demonstrated that the mediator M (flow) influenced the dependent variable Y (ethical blindness) when controlling for the independent variable Y (goal clarity). As shown in Model 3, the coefficient for flow was negative and significant, indicating a negative relationship between flow and ethical blindness. Furthermore, with flow in the equation, the relationship between clear goals and ethical blindness was significant (Model 3: $\beta = -0.27$, $SE = 0.11$, $p < 0.01$), but the coefficient for clear goals was lower than the coefficient of clear goals in the direct relationship between clear goals and ethical blindness (Model 1: $\beta = -0.33$, $SE = 0.10$, $p < 0.01$). These results provide support for Hypothesis 2.

I then used a PROCESS macro developed by Hayes (2013) for SPSS to evaluate the full model proposed in Figure 11. The analysis was conducted using 5,000 bootstrapped samples. The results showed that the model was significant ($F(6,144) = 3.59$, $p < 0.01$), accounting for 14.97% of variance in ethical blindness. As depicted in Table 20 (see Model 4), predicting outcome variables (i.e., goal clarity, flow, time pressure) emerged as significant predictors of ethical blindness. In addition, the interaction effect was significant (Model 4: $\beta = -0.16$, $SE = 0.08$, $p < 0.05$). Although the results show that time pressure interacts with flow to influence ethical blindness, they do not directly assess the conditional indirect effect depicted in Figure 11. Therefore, based on the recommendations of Preacher, Rucker, and Hayes (2007), I examined the conditional indirect effect of clear goals on ethical blindness through flow at five values of time pressure (corresponding to the 10th, 25th, 50th, 75th, and 90th percentiles in the sample), and generated a confidence interval at each level of the proposed moderator. If the confidence interval does not contain zero, it can be concluded that the indirect or mediating effect is significant. The post hoc probing results at the different time-pressure levels are presented in Table 21..

Table 19: Means, Standard Deviations, and Correlations ^{a, e}

Variable	Mean	SD	1	2	3	4	5	6	7	8	9
1 Age	36.29	10.59	-								
2 Gender ^b	1.62	.49	-.02	-							
3 Education ^c	4.16	1.23	-.05	.15	-						
4 Work experience	9.29	7.64	.52***	.13	.08	-					
5 Employment status ^d	1.23	.59	-.19*	-.00	.04	-.25***	-				
6 Clear goals	5.54	.85	-.08	-.07	.06	.11	-.08	(.77)			
7 Flow	4.39	1.01	-.00	.12	.13	.07	.13	.27***	(.91)		
8 Time pressure	4.31	1.14	.02	.07	.05	.00	-.00	-.19*	.02	(.85)	
9 Ethical blindness	2.92	1.07	-.03	-.04	-.02	-.15	.06	-.27**	-.23**	.13	(.89)

^a n = 151.

^b 1 = "male," 2 = "female."

^c 1 = "Middle School", 2 = "High school diploma", 3 = "Associate's degree", 4 = "Bachelor's degree", 5 = "Master's degree", 6 = "Doctorate degree"

^d 1 = "Employed full time", 2 = "Employed part time", 3 = "Student", 4 = "Unemployed", 5 = "Retired"

^e Coefficient alphas are on the diagonal in parentheses.

*p < .05, **p < .01, ***p < 0.001

Table 20: Results for the Mediation Model and the Moderated Mediation Model ^{a, b, c, d}

	Model 1	Model 2	Model 3	Model 4
			Mediation model	Moderated mediation model
	$X_i \rightarrow Y_{ij}$	$X_i \rightarrow M_{ij}$	$X_i, M_{ij} \rightarrow Y_{ij}$	
(Constant)	4.97 ^{**} (.83)	1.29 [†] (.76)	5.20 ^{**} (.83)	3.89 ^{**} (.88)
Age	.00 (.01)	.00 (.01)	.00 (.01)	.01 (.01)
Gender ^c	-.10 (.18)	.24 (.17)	-.06 (.18)	-.08 (.18)
Education	.00 (.07)	.08 (.07)	.01 (.07)	.01 (.07)
Work experience	-.02 (.02)	.00 (.01)	-.02 (.01)	-.02 (.01)
Employment status	.02 (.15)	.29 [*] (.14)	.07 (.15)	.13 (.15)
Clear goals	-.33^{**} (.10)	.34^{**} (.09)	-.27[*] (.11)	-.21 [*] (.11)
Flow			-.18[*] (.09)	-.17 [*] (.09)
Time pressure				.14 [†] (.08)
<i>Interaction effects</i>				
Flow × Time pressure				-.16[*] (.08)
R ²	.09	.13	.15	.15
F (df)	2.39 (6,144)	3.27 (6,144)	2.79 (7,143)	2.76 (9,141)
Δ R ²	.05	.09	.07	.09

Notes: ^a n = 151. ^b Robust standard errors are presented next to fixed effects in parentheses. ^c Values in bold are relevant to tests of hypotheses.

^d Dependent variable: ethical blindness.

^{**} $p < .01$, ^{*} $p < .05$, [†] $p \leq .10$

Table 21: 95% BC Confidence Intervals of the indirect effect at the 10th, 25th, 50th, 75th, and 90th percentiles of the moderator

Time pressure	Effect	BC 95% bootstrapped CI ^a	
		Lower	Upper
-1.5126	.0248	-.0748	.1344
-.7126	-.0186	-.1026	.0486
.0874	-.0619	-.1547 ^b	-.0071
.6874	-.0944	-.2121 ^b	-.0230
1.0874	-.1161	-.2553 ^b	-.0287

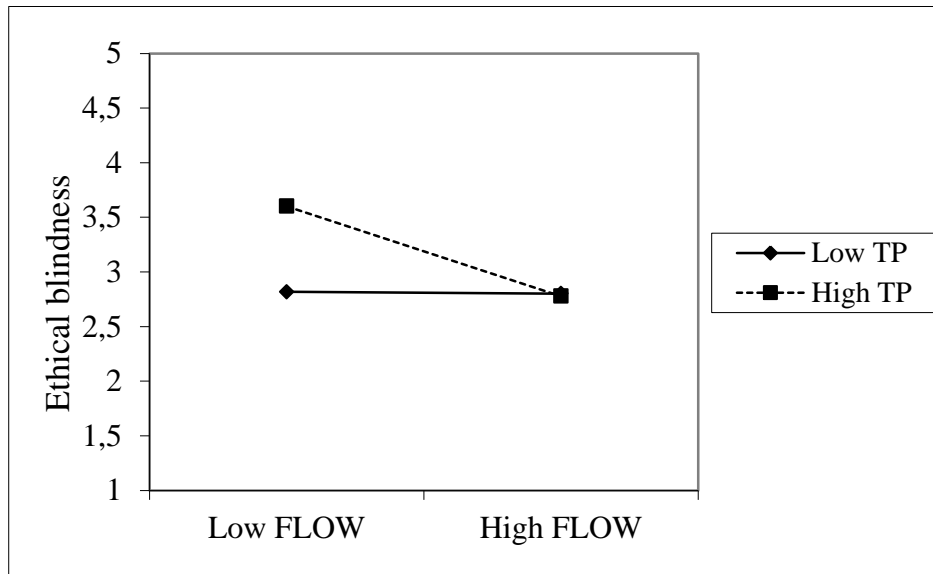
^a BC confidence intervals are bias-corrected.

^b Confidence intervals that do not contain zero are deemed to be significant.

Because the normal-theory test assumes normality of the sampling distribution of the conditional effects, I obtained 95% bootstrapped confidential intervals. As can be seen in Table 21, the mediating effect of flow varied as a function of the proposed model. Specifically, the indirect effect of clear goals on ethical blindness through flow was significant and stronger when time pressure was higher, whereas flow was not a significant mediator of the relationship between clear goals and ethical blindness when time pressure was low. Thus, Hypothesis 3 was partially supported. Namely, the results show that time pressure moderated the indirect relationship between clear goals and ethical blindness, as mediated by flow. However, the results show that the higher the time pressure, the more negative the relationship was.

In order to gain a better understanding of the relationship among flow, time pressure, and ethical blindness, I plotted the moderated effect of time pressure on the relationship between flow and ethical blindness. The results, which are plotted in Figure 12, show that the interaction between flow and time pressure was significant ($\beta = -0.18$, $p = 0.02$). As depicted in the Figure 12, ethical blindness is low when time pressure and flow are low. In addition, when flow is high, ethical blindness will be low, irrespective of the level of time pressure.

Figure 12: The moderating effect of time pressure on the flow-ethical blindness relationship



3.4 DISCUSSION

I drew on the goal-setting (Locke, 1968) and ethical blindness theory (Palazzo et al., 2012) to argue that flow, stimulated by clear and specific goals, may lead to ethical blindness. I first proposed that goal clarity (i.e., clear and specific goals) is positively associated with ethical blindness. Namely, goal clarity was found to affect the increased focus on the task and thus cause individuals to ignore the ethical component (Tenbrunsel & Messick, 1999). However, the results indicated a negative association between goal clarity and ethical blindness, thus failing to provide evidence to support my first hypothesis. Thus, results suggest that when faced with clear and specific goals, employees are less likely to become ethically blind. A possible explanation of the results could be that goals provide a standard or target to which employees should strive (Latham, 2012). Therefore, when confronted with clear and specific goals, employees will know exactly what needs to be done. Thus, employees have enough information to decide whether they have enough knowledge and experience to carry out the given goals. In addition, they also have enough information to visualize the necessary steps to achieve the given goals and to assess whether the given goals are consistent with their values and norms. Based on this information, employees can accept the rational decision of whether to implement the given goal. Thus, even though employees will deviate from their own values and principles when implementing the given goal, they will not be ethically blind, because they consciously accepted the given goal and are thus aware of the possibility of this deviation.

In line with my second hypothesis, the results showed the mediating role of flow on the relationship between goal clarity and ethical blindness. However, the results show that flow will decrease the likelihood of ethical blindness. Thus, employees who often

experience flow at work will less likely unintentionally behave unethically (i.e., be ethically blind). The results did not provide evidence of possible negative ethical consequences of flow and, on the contrary, suggest positive consequences of flow when applied to ethics. This may be due the fact that once employees accept the given goals as a challenge, it allows them to experience flow in which they will find no pleasure searching for shortcuts. Namely, a balance between challenges and skills is a necessary precondition to the flow experience (Nakamura & Csikszentmihalyi, 2002). Thus, when employees perceive the given goals as a challenge, they will be confident that their skills are well suited to the given challenge (Chen et al., 1999). Therefore, employees will have a sense that they can deal with the given goal because they know how to respond to whatever happens next (Csikszentmihalyi, 1997, 2000; Csikszentmihalyi & Csikszentmihalyi, 1992).

When performing the given goal, they will rely on their skills. Due to flow, employees will become one with the activity and will not be concerned with the judgment of others because all concern for self will disappear (Aubé et al., 2014; Fullagar & Kelloway, 2009). Thus, individuals will remain loyal to their values, principles, and norms and will thereby be less likely become ethically blind. In addition, when in flow, implementation of the task becomes enjoyable, intrinsically motivating pleasurable experiences in the process of achieving a goal per se (Asakawa, 2010; Aubé et al., 2014; de Manzano, Theorell, Harmat, & Ullén, 2010). Therefore, employees will focus their attention on the implementation of the activity and not on the external goal. They will feel the need to implement the activity properly, without behaving unethically. When in flow, unethical behavior is apparently not an option, since this would mean that employee failed to achieve the given challenge and would no longer be in flow.

Moreover, I also found support for my third hypothesis by demonstrating the moderating role of time pressure. However, I proposed that time pressure would positively moderate the relationship between goal clarity and ethical blindness, mediated by flow, while the results suggest that time pressure negatively moderates the relationship.

I further I examined the conditional indirect effect of clear goals on ethical blindness through flow and found that the indirect effect of clear goals on ethical blindness through flow was significant and stronger when time pressure was high, whereas flow was not a significant mediator of the relationship between clear goals and ethical blindness when time pressure was low. Thus, the results suggest that time pressure will negatively moderate the relationship between goal clarity and ethical blindness, mediated by flow, only when time pressure is high. It could be argued that employees can perceive high time pressure as a challenge. Thereby, high time pressure may stimulate flow and increase the positive influence of flow on ethical blindness. In addition, in order to facilitate the understanding of the relationship among time pressure, flow, and ethical blindness, I performed a two-way interaction analysis. The results suggest that when time pressure and

flow are low, ethical blindness will be also low. However, when flow is high, ethical blindness will be low irrespective of the level of time pressure.

3.4.1 Theoretical contributions

Since researchers have primarily focused their attention on the positive consequences of flow, flow is perceived to be a positive phenomenon that can stimulate positive, organizationally relevant outcomes (Debus et al., 2014). To date, researchers have paid little attention to understanding the negative consequences. However, Keller and Bless (2008) acknowledged that “flow is not necessarily related to positive ethical or social consequences” (pp. 198–199). Therefore, we should deepen our understanding of when, why, and how flow can lead to unethical consequences before fully embracing the stimulating recommendation to promote experiencing flow in organizations. Taken together, it is important to examine the factors that promote flow and its positive consequences, but at the same time, it is also important to know under which conditions negative consequences of flow may appear. Knowledge about antecedents and consequences is important for demonstrating the added value of flow in different settings (Demerouti, 2006).

This study makes two distinct contributions to the flow literature. The first contribution is related to providing an explanation of causal mechanisms that are responsible for flow occurrence. Specifically, this study drew on goal-setting theory (Locke, 1968) and proposed and demonstrated that goal clarity is the contextual factor that promotes flow experience. To the best of my knowledge, this is the first study to examine the direct influence of goal clarity on flow experience at work.

I then examined the potential negative sides of flow. Some authors had already drawn attention to the potential negative sides of flow, which were not necessarily related to positive ethical or social consequences, because flow experiences can become addictive and flow can be experienced when individuals engage in antisocial activities (Keller & Bless, 2008). However, to the best of my knowledge, to date, no study has theoretically conceptualized the relationship between flow and unethical behavior. Thus, an important theoretical contribution of this chapter is the conceptualization of the relationship between flow and ethical blindness, which is a form of unintentional unethical behavior. This conceptualization serves as an important and novel theoretical mechanism in explaining the link between flow and unethical behavior. I therefore contribute an important piece of theoretical conceptualization and empirical research on both flow antecedents and negative outcome of flow. Specifically, I examined whether flow, stimulated by clear and specific goals, increases ethical blindness, a temporary state in which employees behave unethically without being aware of it (Palazzo et al., 2012). Contrary to the expected, I

found that flow prevents ethical blindness. To the best of my knowledge, this study is the first study that found positive consequences of flow when applied to ethics.

Moreover, I also introduced time pressure to explain the relationship between flow and ethical blindness. I found empirical evidence for the moderating effect of time pressure on the relationship between flow and ethical blindness. More specifically, the study suggested that time pressure stimulates flow experiences and thereby increases the positive influence of flow on ethical blindness. In addition, to the best of my knowledge, this is the first study to examine the relationship among flow, time pressure, and ethical blindness. The result suggests that low levels of flow, together with high levels of time pressure, will promote ethical blindness. However, when flow is high, ethical blindness will be low, irrespective of the level of time pressure. Thus, this study contributes to flow theory by suggesting another positive consequence of flow: Flow can mitigate the negative consequences of time pressure.

Finally, I also contribute to the understanding of the ethical blindness construct. Even though ethical blindness has been identified as a construct that can help us better understand unethical behavior, our current understanding of ethical blindness remains limited. To the best of my knowledge, no empirical research has been done to examine the potential antecedents of ethical blindness. Further, to date, no empirical research has examined ethical blindness in organizations, and consequently, academics and practitioners are still uncertain when it comes to examining the presence of ethical blindness at work and its effect on employees' (un)ethical behavior. Thus, an important contribution of this study is the theoretical conceptualization and empirical examination of antecedents of ethical blindness in organizations. This is the first study to provide a theoretical explanation and empirical evidence for the relationship among flow, time pressure, and ethical blindness. The results of the study show that flow decreases ethical blindness, whereas, under some conditions, time pressure may increase the occurrence of ethical blindness in a work context.

3.4.2 Practical implication

The research has several important practical implications for human-resource selection processes and for the goal-setting processes. Results of the study suggest that if managers are interested in boosting flow at work, they should not only pay attention to the formal requirements and individuals' skills when selecting employees but also should consider whether work characteristics and challenges will allow individuals to experience a high level of flow at work. A proper fit between employee skills and work context, which defines work challenges, will more likely stimulate employees to experience flow at work often and thereby stimulate positive consequences of flow.

Moreover, the study has shown that clear and specific goals act as a tangible managerial remedy that contributes to employees' flow experience, thereby promoting positive, organizationally relevant outcomes of flow experience. The results revealed that clear and specific goals have two important practical implications. First, managers should be aware that clear and specific goals will promote flow and thereby decrease the level of ethical blindness. Thus, employees who have clear and specific goals will more likely experience flow and will consequently be less likely to unintentionally behave unethically.

Since pressure at work is increasing (Noefer, Stegmaier, Molter, & Sonntag, 2009) and there are no indicators of a trend in the opposite direction, managers are confronted with the challenge of how to prevent the negative consequences of time pressure. The results revealed that flow will also reduce the negative consequences of time pressure. Specifically, the results revealed that high time pressure can lead to higher ethical blindness. However, when employees are in flow, time pressure will have no effect on ethical blindness. Taken together, flow will decrease the risk of unethical behavior, resulting in lower financial, reputational, and emotional costs for organizations (Karpoff et al., 2008). Thus, managers should set clear and specific goals and therefore set the standards and help their employees clearly understand what is expected of them in terms of their task outcome. In doing so, they will increase the occurrence of flow and decrease the likelihood of ethical blindness.

3.4.3 Limitations and Suggestions for Future Research

Despite the aforementioned contributions, the research is not without limitations. The first limitation is related to data collection. The data were self-reported, which raises concerns about common-method bias. For this reason, when collecting the data, some items in the questionnaire were reverse coded, and respondents were assured anonymity. In addition, the results of two post hoc statistical tests (i.e., Harman's one-factor test and the one-factor CFA) suggested that common-method variance should not be of great concern and is unlikely to confound the interpretations of results. However, the results of these tests do not preclude the possibility of common-method variance. Thus, future research should test a proposed model by collecting data from multiple sources and conducting experimental studies. Secondly, the data were cross-sectional, which limits the ability to demonstrate causality. Future research could benefit from longitudinal designs, which could enable the observation of variations in ethical blindness and other variables of interest over time.

Thirdly, I used The Ethical Blindness in the Workplace scale to measure ethical blindness. Although the 13-item measure was tested and validated in several consecutive steps on three quantitative data sets (a detailed description of the steps is presented in Chapter 2) and the results revealed that items used in this study performed well, further analyses and testing of the scale are necessary to establish more definitive proof of reliability and

validity. In addition, the-ethical-blindness scale measures only unintentional unethical behavior. Thus, further research should also test the relationship between flow and rational unethical behavior. In addition, further research should also use the experience sampling method in order to gain better understanding of ethical blindness. This would help us to understand how ethically blind individuals feel when engaged in unethical behavior.

Moreover, the results showed that flow decreases the levels of ethical blindness. However, this study did not provide an answer to why, for example, Lance Armstrong, a former professional road-racing cyclist who enjoyed his work (i.e., was experiencing flow), used drugs to win his races. This study examined whether the narrow focus, caused by flow experience, influenced his decision. However, I still believe that flow theory can help us answer the question of why good employees, who love their work, can behave unethically. The reason is this: Experiencing flow is so enjoyable that individuals will do it, even at great cost, for the sheer sake of doing (Csikszentmihalyi, 1990). Thus, individuals want to experience flow continuously. This is possible if they constantly seek higher challenges and develop their skills, since one cannot continuously experience flow by dealing with the same challenge. However, I assume that there is some upper limit to which individuals can develop their skills. The question that arises is as follows: What happens when an individual has not developed or is unable to develop the proper skills to reach a higher challenge? In this case, the individual may try to experience flow by doing other activities or, because of the autotelic experience, insist on doing activities that allowed him or her to experience flow before, when challenges and skills were balanced. Furthermore, if individuals do not have proper skills to reach a higher goal, they may become very creative in finding unethical solutions that will enable them to experience flow again. Thus, further research should examine how ethical individuals are when searching for the proper challenge that will allow them to experience flow again.

The final limitation of this study is related to the sample characteristic: The sample included mostly educated employees who are believed to have more responsible work. Thus, this perception of responsibility may in turn increase their level of ethical awareness. Therefore, future studies could also explore whether job characteristics influence the proposed relationship.

4 CONSEQUENCES OF FLOW: THE ROLE OF FLOW, JOB CRAFTING, AND FUTURE TIME PERSPECTIVE IN WORKAHOLISM

This chapter aims to examine the negative consequences of flow at work. Drawing on the flow theory, I propose that employees who often experience flow at work will more likely experience workaholism. Thus, I propose that flow theory can help us examine the circumstances under which workaholism occurs. Furthermore, I examine job crafting as a mediating variable and future time perspective as a moderating variable that stimulates workaholism. I tested these hypotheses in a field study among 146 professors, teachers, and researchers from 24 European countries. I found flow at work is positively associated with workaholism. Moreover, I found that job crafting mediates the relationship between flow and workaholism and that future time perspective moderates the indirect relationship between flow and workaholism, as mediated by job crafting. Finally, in relation to workaholism, I proposed and found the inverted U-shaped relationship between flow at work and satisfaction with work life balance (SWLB). I discuss theoretical implication for workaholism, flow, and job crafting.

4.1 INTRODUCTION

Due to a challenging business world, dynamic changes in working patterns, developments in technology, and employment uncertainty, individuals may over-commit their energies and their time to their working lives (Harpaz & Snir, 2003; Tabassum & Rahman, 2013). This phenomenon is described as *workaholism*, “the compulsion or the uncontrollable need to work incessantly” (Oates, 1971, p. 11). Over the last four decades, researchers have defined workaholism in different ways. Some defined it as a positive phenomenon and claimed it develops from the love of work (Cantarow, 1979), others perceived it as a negative phenomenon, a form of addiction (Killinger, 1992; Oates, 1971; Porter, 1996; Robinson, 1997). Despite the differences in conceptualizations of workaholism, consensus exists that it may result in poorer social relationships outside work, reduces physical well-being, can spark interpersonal conflict at work or burnout, and therefore has a serious impact on personal and work life of individuals (McMillan & O’Driscoll, 2004; Patel, Bowler, Bowler, & Methe, 2012; Tabassum & Rahman, 2012).

Even though workaholism has both direct and indirect costs to physical and mental health (Ng, Sorensen, & Feldman, 2007) and is thus critically important for employers and employees, little empirical research has deepened our understanding of this phenomenon (Harpaz & Snir, 2003; Tabassum & Rahman, 2013). In particular, there is still no agreement among researchers regarding workaholism’s nature and causes of (Bartczak & Oginska-Bulik, 2012). In this chapter I integrate two streams of workaholism literature (positive and negative), and define workaholics as individuals who are very involved in

their work and thoroughly enjoy it (Spence & Robbins, 1992) and who thereby may become addicted to their work.

The objective in this article is to explain mechanisms that reinforce workaholism. To do so, I draw on flow theory, which offers a conceptual framework to deepen the knowledge of how it occurs. According to Bakker (2008), flow is “a state of consciousness where people become totally immersed in an activity, and enjoy it intensely” (p. 1). Employees often in flow are highly motivated to work (Csikszentmihalyi & LeFevre, 1989), enjoy their work, feel happier, and can work actively for longer (Csikszentmihalyi, Kolo, & Baur, 2004). However, it is also probable that under certain conditions, autotelic experience, as one dimension of flow, may lead to addiction: it causes a very pleasant feeling that individuals are willing to do almost everything to feel again (Csikszentmihalyi, 1991). Thus, when experiencing flow at work, employees are willing to devote more time and energy to work and may experience workaholism.

Furthermore, I propose that job crafting mediates the relationship between flow and workaholism. To achieve flow over and over again, an individual has to seek greater challenges and develop greater skills to reach them (Csikszentmihalyi, 1991). Job crafting is a proactive behavior consisting of increasing job resources, increasing job challenges, and decreasing job demands (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012; Tims & Bakker, 2010). Through it, employees can redesign their jobs to allow them to experience flow continuously. I propose that employees who craft their job, experience flow at work more often than those who do not. Thereby, they often sense the positive consequences of flow and become willing to spend much more time on work-related activities, which may lead to workaholism.

I further propose that future time perspective, which positively correlates with conscientiousness, consideration of future consequences, preference for consistency and the self-report hours spent working per week (Zimbardo & Boyd, 1999), reinforces the indirect relationship between flow and workaholism, as mediated by job crafting. Time perspective, “the totality of the individual’s views of his psychological future and psychological past existing at a given time” (Lewin, 1951, p. 75), is an important personal factor that has a tremendous effect on how we live our lives (Zimbardo & Boyd, 1999). Future-oriented employees are more likely to sacrifice their time and become fully dedicated to work (seek new resources and challenges) to achieve long-term goals. I thus hypothesize that employees who experience flow at work can craft their job, are future-oriented, and will more likely experience workaholism. Finally, in relation to workaholism, I propose the inverted U-shaped relationship between flow at work and SWLB.

The theoretical perspective and empirical findings have several intended contributions to knowledge about workaholism, flow, and job crafting in organizations. First, the research

answers calls to deepen our understanding of workaholism (Harpaz & Snir, 2003; Tabassum & Rahman, 2013) by explaining the circumstances under which workaholism occurs. I suggest flow experience, job crafting and future time perspective as causal mechanisms under which workaholism happens. Second, I also aim to contribute to the flow theory. Even though flow is perceived as a positive phenomenon, the author of flow theory, Csikszentmihalyi (1975), illustrated the possibility of negative aspects of flow by acknowledging its “addictive propensity” (p. 139). However, to the best to my knowledge, no research has empirically examined the negative aspect of flow at work. In the study, I show how job crafting and future time perspective can lead flow experience in a wrong direction. Finally, I also contribute to the job crafting theory. I answer the call to explore the dark sides of job crafting (Grant & Ashford, 2008), by illustrating how job crafting that brings enjoyment and meaning can also expose individuals to workaholism. In addition, I also contribute to flow theory by examining the inverted U-shaped relationship between flow at work and SWLB. Therefore, I suggest that too-much-of-a-good thing effect is also applicable to the flow experience. Taken together, before fully embracing the recommendation to promote flow experience and job crafting in organizations, we should gain more knowledge of their negative consequences, allowing us to prevent them.

4.2 THEORY AND HYPOTHESES DEVELOPMENT

I propose that individuals who frequently experience flow at work may become workaholics. Furthermore, I also propose that job crafting influences the relationship between flow and workaholism. Also, I propose that time perspective influences the relationship between job crafting and workaholism. Finally, I propose an inverted U-shaped relationship between flow at work and SWLB. In what follows, I briefly review the workaholism theory and then explain the proposed relationships.

4.2.1 Definitions, antecedents and consequences of workaholism

Over the last three decades, workaholism has received considerable attention in the popular press since the last generation’s changes (global competition, job insecurity, more demanding work, and technological advances) stimulate employees to work harder and spend more time and energy at work (Andreassen, Griffiths, Hetland, & Pallesen, 2012; Aziz, Adkins, Walker, & Wuensch, 2010; Burke, 2004; Golden, 2009; Selmer & Waldstrøm, 2007; van Beek, Hu, Schaufeli, Taris, & Schreurs, 2012). However, little research has further explored this phenomenon (Andreassen, 2014; Burke, 2004; McMillan, O’Driscoll, Marsh, & Brady, 2001). Empirical data on why and how individuals become workaholics remains very limited (Andreassen, Ursin, Eriksen, & Pallesen, 2012; Ng et al., 2007). Since researchers have proposed various definitions and conceptualizations of workaholism (Andreassen, 2014; McMillan et al., 2001; Ng et al.,

2007; Tabassum & Rahman, 2013), opinions, observations, and conclusions about it are varied and conflicting (Burke, Davis, & Flett, 2008; Van den Broeck et al., 2011).

Definitions of workaholism. In general, workaholism describes individuals who work many hours or very hard (Burke, 2004; G. Porter, 1996). As attested in Table 22, researchers have proposed numerous more specific definitions, but with no agreement beyond this general one (Andreassen, 2014; Brady, Vodanovich, & Rotunda, 2008; G. Porter, 1996; Snir & Harpaz, 2012; Taris, Geurts, Schaufeli, Blonk, & Lagerveld, 2008).

Table 22: The most commonly used definitions of workaholism

<i>Author</i>	<i>Definition</i>
Oates (1971)	Workaholism is “the compulsion or the uncontrollable need to work incessantly that disturbs health, happiness, and relationships” (p. 11).
Cherrington (1980)	Workaholism is “an irrational commitment to excessive work. Workaholics are unable to take time off or to comfortably divert their interests” (p. 257).
Spence and Robbins (1992)	A workaholic as a person who “is highly work involved, feels compelled or driven to work because of inner pressures, and is low in enjoyment at work”(p. 62).
Scott, Moore, and Miceli (1997)	Workaholism is “a fairly stable behavior pattern exhibited by the same person in multiple organizational settings” (p. 292).
Robinson (2000)	“Work addiction is an addiction in the same way that alcoholism is an addiction. Progressive in nature, it is an unconscious attempt to resolve unmet psychological needs that have roots in the family of origin and can lead to unmanageable life, family disintegration, serious health problems, and even death” (p. 34).
McMillan, O’Driscoll, Marsh, and Brady (2001)	Workaholism is defined “as a personal reluctance to disengage from work evidenced by the tendency to work (or to think about work) anytime and anywhere” (p. 71).
Peiperl and Jones (2001)	Workaholics are “hard workers who enjoy and get a lot out of their work” (p. 388).
Kochanska, Friesenborg, Lange, and Martel (2004)	“Workaholism is defined as high commitment to perfectionism, work, and achievement that surpasses commitment to relationships” (p. 752).

(table continues)

(continued)

<i>Author</i>	<i>Definition</i>
Snir and Harpaz (2004)	Workaholism is “an individual’s steady and considerable allocation of time to work related activities and thoughts, which does not derive from external necessities” (p. 522).
Ng, Sorensen, and Feldman (2007)	Workaholics are “those who enjoy the act of working, who are obsessed with working, and who devote long hours and personal time to work” (p. 114).
Schaufeli, Taris, and Bakker (2008)	Workaholism is defined as “the tendency to work excessively hard and being obsessed with work, which manifests itself in working compulsively” (p. 219).
Schaufeli, Shimazu, and Taris (2009)	Workaholism is “the tendency to work excessively hard (the behavioral dimension) and being obsessed with work (the cognitive dimension), which manifests itself in working compulsively” (p. 322).
Andreassen, Griffiths, Hetland, and Pallesen (2012)	“Workaholism can be defined as being overly concerned about work, being driven by an uncontrollable work motivation, and spending so much energy and effort on work that it impairs private relationships, spare-time activities and/or health”(p. 265).
Yüksel (2014)	“Workaholism as the ultimate level of work engagement in the process of employee and employer relationship is a psychological and social state in which an employee has an excessive fondness for the work” (p. 120).

Oates (1971) first defined workaholism as “the compulsion or the uncontrollable need to work incessantly” (p. 11). Later on, some researchers emphasized its *negative* aspects, such as compulsiveness and rigidity, and saw it as an addiction and irrational commitment to excessive work (Cherrington, 1980; B. Killinger, 1992; McMillan et al., 2001; Oates, 1971; Bryan E Robinson, 1998; Schaeff & Fassel, 1988; Schaufeli, Shimazu, & Taris, 2009; Taris et al., 2008). These authors depicted workaholics as obsessive, unhappy employees, with low job performance, who suffer from perfectionism and create difficulties for coworkers (Oates, 1971; Gayle Porter, 1996). Also, they argued that workaholic employees felt that they must work hard to avoid negative feelings, which occur when they are not working (irritability, guilt, anxiety, and shame) (Barbara Killinger, 2006; van Beek et al., 2012).

On the other hand, some research has seen workaholism as a *positive* phenomenon and described workaholics as individuals who love their work, are passionately involved in it and value work satisfaction more than family relations (Burke, 2001b; Cantarow, 1979; Machlowitz, 1980; Scott, Moore, & Miceli, 1997). Moreover, they argue that workaholism is foremost a positive attribute or behavior tendency and that workaholics are individuals who score high on work motivation and are very satisfied and productive (Machlowitz, 1980; Peiperl & Jones, 2001; Scott et al., 1997).

McMillan et al. (2001) considered the definitions of workaholism in three different categories: first, *dynamic* definitions, which specify the effect of behavior and treat workaholism as a method to avoid personal responsibility to non-work-related individuals while earning acclaim from work colleagues; second, *characteristic* definitions indicate the structure and magnitude of behaviors and often consist of value judgments (irrational, neglectful, excessive), and third, *operational* definitions specify the necessary components or behaviors for workaholism to occur.

Furthermore, researchers proposed and defined different *types of workaholic* behavior patterns. For example, Naughton (1987) proposed four types of workaholics: job-involved workaholics, compulsive workaholics, non-workaholics, and compulsive non-workaholics. Furthermore, Spence and Robbins (1992) identified two types of workaholism patterns based on three workaholism components, also known as the workaholism triad (work involvement, feeling drive to work, and work enjoyment). Enthusiastic workaholics are highly involved with work, are driven by an internal pressure to work, and find great pleasure in working. Non-enthusiastic workaholics are also highly involved in work-related activities, also feel driven to work due to internal pressure, but experience little work enjoyment. Also, Scott et al. (1997) proposed the following workaholic types: compulsive-dependent, perfectionist, and achievement-oriented. However, “the underlying theoretical dimensions used to differentiate among types of workaholics are neither transparent nor explicitly addressed” (Ng et al., 2007, p. 113). Thus, different types of workaholic behavior patterns have different characteristics, and thereby different antecedents and job performance, work and life outcomes (Burke, 2004; Naughton, 1987; Spence & Robbins, 1992).

Elements of workaholism. Despite different ideas of workaholism among researchers, several common behavioral patterns can be found among individuals classifiable as workaholics (Ammons & Markham, 2004; Bardakci & Baloglu, 2012; Burke, 2004; Ng et al., 2007; G. Porter, 1996; B.E. Robinson, 1997; Schaufeli, Shimazu et al., 2009; Scott et al., 1997; Spence & Robbins, 1992): (1) a highly commitment to work; (2) voluntary devotion of considerable time to work-related activities, with negative consequences for social, family, and other activities; (3) continued focus on work even when not at work; (4) work beyond organizational or financial expectation, needs or demands; (5) belief that only

work can make one happy; (6) prioritization of work over everything else; (7) hard work; and (8) strong inner drive to work. Also, there is general agreement not to define workaholics solely by time spent at work (Brady et al., 2008; Peiperl & Jones, 2001).

Antecedents. Burke (2001a) found positive relationships between individual demographics, work situation characteristics, personal beliefs and fears, perceptions of organizational support of work-personal life imbalance, and workaholism. Others found workplace values (Burke, 2001a; Schaefer & Fassel, 1988), social environment (van Beek et al., 2012), high interest in the job, fear of failure (Ammons & Markham, 2004), and job demands (e.g. work pressure, emphasis on output, peer competition, a winner-take-all system, work overload) (Johnstone & Johnston, 2005; Ng et al., 2007), and personal traits (e.g. obsessive compulsion, achievement orientation, perfectionism, and conscientiousness) (Aziz & Tronzo, 2011; Burke et al., 2008; Liang & Chu, 2009) to promote workaholism. Several researchers also proposed various factors that prevent workaholism (or make it less likely), including outside interests, separation of work and non-work areas, the use of outside cues and signals to end it (Ammons & Markham, 2004; Edwards & Edwards, 1994). Moreover, recent perspectives on workaholism propose a combination of personal and environmental conditions as a key antecedent of workaholism (Liang & Chu, 2009; Mazzetti, Schaufeli, & Guglielmi, 2014).

Consequences. Most researchers have focused on negative consequences of workaholism, such as unhappiness, low performance, perfectionism, and distrust of coworker (Burke, 2001b; Choi, 2013; Oates, 1971). Taris, Schaufeli, and Verhoeven (2005) further argue that over time workaholics may become emotionally and cognitively exhausted (Taris et al., 2005). Moreover, since workaholics devote excessive time and energy to work and thereby less to non-work-related social relationships, workaholism may also degrade social relationships outside work and cause family-work conflict (Bakker, Demerouti, & Burke, 2009; Bakker, Shimazu, Demerouti, Shimada, & Kawakami, 2013; Bonebright, Clay, & Ankenmann, 2000; McMillan & O'Driscoll, 2004; Ng et al., 2007; Bryan E Robinson, Flowers, & Carroll, 2001). Studies have also associated workaholism with poorer mental, physical, and social health (Gayle Porter, 1996); interpersonal conflict at work (Peter E. Mudrack, 2006); lower job satisfaction (Burke & MacDermid, 1999); more work-home interference (Schaufeli, Bakker, Van der Heijden, & Prins, 2009); difficulties with delegating and feel more stress (Spence & Robbins, 1992); and burnout (Burke, Richardsen, & Mortinussen, 2004; Schaufeli, Bakker et al., 2009; Schou Andreassen, Ursin, & Eriksen, 2007; van Beek et al., 2012).

On the other hand, enthusiastic, achievement-oriented workaholism was linked to several positive consequences such as achievement striving, high job performance, prosocial behavior, adaptability, creativity, and innovativeness (Douglas & Morris, 2006; Scott, et al., 1997; Shimazu, Schaufeli, & Taris, 2010). Moreover, workaholism may also positively

relate to job and career satisfactions (Burke, 2001b; Ng, Eby, Sorensen, & Feldman, 2005). Workaholics can also be perceived as hyper-performers, passionate about and captivated by work (Korn, Pratt, & Lambrou, 1987; Tabassum & Rahman, 2013). Despite these positive organizational consequences, it is still not clear whether employers should promote or hinder workaholism (Burke et al., 2008; Machlowitz, 1980).

4.2.2 Flow and workaholism

In this chapter I integrate two streams of workaholism literature (positive and negative), and define workaholics as individuals very involved in their work, who thoroughly enjoy it (Spence & Robbins, 1992) and thereby may become addicted to it. I propose workaholism is a possible consequence of flow experience. Thereby, I draw on flow theory to deepen knowledge of how workaholism occurs.

Flow is defined as “a state in which people are so involved in an activity that nothing else seems to matter; the experience itself is so enjoyable that people will do it even at a great cost, for the sheer sake of doing it” (Csikszentmihalyi, 1991, p. 4). In the lives of average adults, the great majority of flow experiences result from work (Csikszentmihalyi & LeFevre, 1989). Individuals have to invest time and energy to experience flow. Thus it is more likely that they experience flow more often during their work than during their free-time activities (Bakker, 2005; Csikszentmihalyi, 1997; Pilke, 2004).

Even though flow requires serious energy output, it usually provides no conventional rewards (Strümpfer, 2003). Individuals seek flow primarily for itself, because they enjoy it (Privette, 1983). Specifically, employees who experience flow at work perform a certain work-related activity continually, because of fascination with it and not external regulation or reward (Bakker, 2008; Fullagar, Knight, & Sovern, 2013). Due to the positive consequences of flow at work, individuals may grow excessively fond of work involvement, which is one characteristic of workaholics (Yüksel, 2014). Thus, flow experience may stimulate an unstoppable wish to work and work beyond external needs or formal requirements, leading to workaholism (Brady et al., 2008; Scott et al., 1997; Yüksel, 2014).

Flow also stimulates positive emotions, such as joy, curiosity, enthusiasm, and confidence (Chen, Wigand, & Nilan, 1999; Graham, 2008; Zaman, Anandarajan, & Dai, 2010). Fullagar and Kelloway (2009) found that individuals who experienced flow were happier and more attentive, excited, and involved in their tasks. Moreover, employees often in flow are highly motivated to work (Csikszentmihalyi & LeFevre, 1989); enjoy their work, feel happier, and can work actively for longer (Csikszentmihalyi et al., 2004). Since flow experience is so enjoyable, individuals may be willing to volunteer considerable time to work-related activity that allows them to experience flow. Therefore, flow experience may

stimulate one of the most common behavioral patterns of workaholism (discretionary time spent in work activities) (Brady et al., 2008; Scott et al., 1997).

Further, flow is fun (Privette, 1983) and thereby so satisfying, valuable, and positive that individuals want to repeat the activity continually to experience it (Csikszentmihalyi, 1988; Jackson & Csikszentmihalyi, 1999; Marin & Bhattacharya, 2013). To continually experience flow, individuals have to identify and engage in more creative and complex challenges to create an ideal match for their skills (Admiraal, Huizenga, Akkerman, & Ten Dam, 2011; Massimini & Delle Fave, 2000; Shernoff, Csikszentmihalyi, Shneider, & Shernoff, 2003). Thus, they have to constantly seek out higher work challenges and thereby encourage behavior pattern of thinking about work on ongoing basis, which is characteristic for workaholics (Brady et al., 2008; Scott et al., 1997).

Moreover, individuals who enjoy flow during an activity may develop a tendency to repeat it and thus activate addiction through this repetition (Chou & Ting, 2003; Trayer, Harré, & Overall, 2012), neglecting other important duties (Trevino & Webster, 1992). Snir and Zohar (2008) found workaholism associated with continued cognitive engagement with work, accompanied by a preference for work over other activities and higher positive affect during work activities. Thus, flow may be the reason workaholics dedicate an excessive amount of time, effort, and energy to their work and neglect other spheres of their life (Buelens & Poelmans, 2004; P.E. Mudrack & Naughton, 2001). Based on this, flow may influence such dimensions of workaholism as (Spence & Robbins, 1992): work involvement (spending free time on project and other constructive activities), drive (obligation to work even when it is not enjoyable), and enjoyment of work (doing more work than expected, strictly for the fun of it).

Also, under certain conditions, autotelic experience, as one of dimension of flow, may lead to addiction, as it causes a very pleasant feeling that individuals are willing to do almost everything to feel again (Csikszentmihalyi, 1991). The addictive nature of autotelic experience will force employees to work more, push their limits, sacrifice time, and ignore things irrelevant to flow at work. As such, employees may dedicate an excessive amount of time, energy and effort to work-related activities and neglect other, non-work aspects of their lives, producing negative consequences for social, family and other activities outside work (Mudrack & Naughton, 2001; Tabassum & Rahman, 2013). Taken together, flow may influence the employees to work many hours, thinking on work on ongoing basis, and to work hard; and thereby fall into workaholism (see Figure 13). I therefore hypothesize as follows:

Hypothesis 4: Flow is positively associated with workaholism.

In what follows, I describe the conditions under which flow influences workaholism. I first explain how job crafting mediates the relationship between flow and workaholism and then examine whether future time orientation strengthens the impact of job crafting on workaholism.

4.2.3 The mediating role of job crafting

Flow and job crafting. Flow is an extremely intrinsically enjoyable experience when an individual engages in an activity with total involvement (Csikszentmihalyi, 1975, 1991). It is complete absorption in activity, characterized by total concentration and enjoyment (Ghani & Deshpande, 1994; Pearce, Ainley, & Howard, 2005). Individuals perceive flow as a subjective experience, which results from a proper balance between a perceived person's skills and a perceived challenge (Clarke & Haworth, 1994; Csikszentmihalyi, 1991; Wu & Liang, 2011; Zaman et al., 2010). Flow often generates positive outcomes such as higher self-esteem, productivity, higher life satisfaction, positive mood, satisfaction, search for challenges, positive emotions, well-being and many others (Ceja & Navarro, 2011; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; Han, 1988; Wells, 1988). Thus, as noted above, individuals are motivated to experience flow continuously.

Furthermore, as mentioned, individuals will be motivated to experience flow over and over again also because of autotelic experience of flow. Autotelic experience is the end result of being in flow. It is a feeling of doing something for its own sake—because is interesting and enjoyable—rather than to achieve some external goal (Csikszentmihalyi, 1991; Delle Fave, Massimini, & Bassi, 2010). Implementation of such activity itself provides a reward in the form of joy and pleasure. Because of this very pleasant feeling of autotelic experience of flow individuals are willing to do almost everything to feel it again (Csikszentmihalyi, 1991). However, perceived balance between challenges and skills is crucial for experiencing flow and one cannot contiguously experience flow by dealing with the same challenge (Csikszentmihalyi, 1991). Therefore, to achieve flow over and over again, an individual has to continuously seek greater challenges and develop greater skills to reach those challenges.

This is possible, when individuals can proactively alter their tasks or other job characteristics on their own initiative—crafting their jobs (Berg, Dutton, & Wrzesniewski, 2008). Job crafting is self-initiated change in behavior at work that individuals engage in to align their jobs with their own preferences, motives, skills, and abilities (Tims, Bakker, & Derks, 2012; Wrzesniewski & Dutton, 2001). The process of job crafting begins with individuals' motivation (Berg et al., 2008) and the desire for continuous flow at work would certainly motivate them. According to Berg, Grant, and Johnson (2010) individuals craft their jobs to create the opportunities to work on enjoyable and meaningful tasks by:

(1) devoting more attention, time, and energy to such tasks; (2) taking an additional task that provides enjoyable and meaningful experience; and (3) reframing the social purpose of individuals' work to align with individuals' enjoyable and meaningful experience.

Furthermore, job crafting is a proactive behavior consisting of increasing job resources; increasing job challenges; and decreasing job demands (Berg, Wrzesniewski, & Dutton, 2010; Petrou, et al., 2012; Tims & Bakker, 2010; Tims, Bakker, & Derks, 2013). Flow at work influences all three of these tasks. First, flow and job resources reciprocally interact with each other over time (Salanova, Bakker, & Llorens, 2006). Flow may promote job resources due to increased social activity at work or attainment of work-related goals; individuals who gain more job resources will also attain a higher level of flow at work (Mäkikangas, Bakker, Aunola, & Demerouti, 2010; Salanova et al., 2006). Second, individuals who want to experience flow continuously have to continuously seek greater challenges and develop greater skills. Therefore, they have to constantly increase the level of challenging job demands and stimulate individuals to develop their knowledge and skills to attain more difficult goals and challenges (LePine, Podsakoff, & LePine, 2005). Flow and job challenges also mutually influence each other: flow stimulates individuals to increase their job challenges, and once individuals do that, they can experience flow again.

Third, flow may also increase the tendency to decrease job demands. A strong experience of flow narrows awareness down to the activity itself. Individuals become completely absorbed in their work and everything else is forgotten and all distractions are excluded from consciousness (Bakker, 2005; Chu & Lan, 2010; Csikszentmihalyi, 1991). When in flow, individuals ignore all information irrelevant to the activity that allows them to experience flow. Thus, individuals who often experience flow at work may decrease the level of hindering job demands, since they are irrelevant to their flow experience.

Job crafting and workaholism. As noted, job crafting is a proactive employee behavior consisting of seeking resources, seeking challenges, and reducing demands (Tims et al., 2012). Seeking behaviors, which may include looking for new tasks, challenges at work and/or taking on more responsibilities, enables individuals to create a work environment that is more in line with the specific characteristics and need of the employees (Tims et al., 2012). Furthermore, through job crafting behavior individuals can redefine their job to incorporate their motives, strengths, and passion (Berg et al., 2008) and thereby, to optimize aspects of their job to keep their work motivation and meaningful (Wrzesniewski & Dutton, 2001).

Employees who are highly motivated to work and who perceive their work as meaningful will more likely work beyond what is expected from them to meet organizational requirements. This is so because job crafting may include crafting more autonomy that may lead employees to feel more responsible for their performance. As a consequence they

may be more motivated to invest more effort in the work task (Parker & Ohly, 2008). For example, professors, who in general have the opportunity to craft their jobs and who perceive their job as meaningful, usually see “a bigger aim” of their work, feel responsible for it, and are thus willing to devote more time, energy and effort than required. Therefore, job crafting may create more work for the employee, even though job crafters are not necessarily recognized or rewarded for the effort they make to create more meaningful jobs; much of what they do may be invisible to managers, supervisors, and coworkers (Star & Strauss, 1999; Wrzesniewski & Dutton, 2001). Therefore, job crafting may lead to workaholism, developed from love for work.

Furthermore, when employees proactively create work in accordance with their needs and preference, they will enjoy work more and become more engaged in it (Tims, Bakker, & Derks, 2014). Engaged employees work hard and are highly involved in their work (Bakker, Schaufeli, Leiter, & Taris, 2008). As they do so, they will spend more hours at work. According to the general definition of workaholism, employees who successfully craft their jobs and adjust their work environment to their needs and motives, allowing them to work hard and more than necessary, will more likely become workaholics (see Figure 13). Thus, I hypothesize as follows:

Hypothesis 5: Job crafting mediates the association between flow and workaholism.

4.2.4 The moderating role of future time perspective

Not all individuals who experience flow at work and have the opportunity to craft their jobs will become workaholics. Some personal factors may shape the relationship between job crafting and workaholism. In identifying potential moderating variables in this case, time perspective theory (Zimbardo & Boyd, 1999) appears particularly useful. Time perspective is an important personal factor with a tremendous effect on how we live our lives (Zimbardo & Boyd, 1999). It is a “nonconscious process whereby the continual flow of personal and social experiences are decomposed or allocated into selected temporal categories or frames that help give order, coherence, and meaning to those events” (Zimbardo & Boyd, 1999, p. 1271).

According to Zimbardo and Boyd (1999) there are five time frames/dimensions: Past-Positive, Past-Negative, Present-Hedonistic, Present-Fatalistic, and Future. Some people tend to live in the moment and enjoy every second of it with little care for what happens tomorrow, whereas others tend to invest their present time and effort into future gains. In this study, I will focus only on future time perspective since this time perspective is likely to be significantly related to workaholism. It reflects planning for and achievement of future goals and is positively correlated with conscientiousness, consideration of future consequences, preference for consistency, and self-reported hours spent working per week

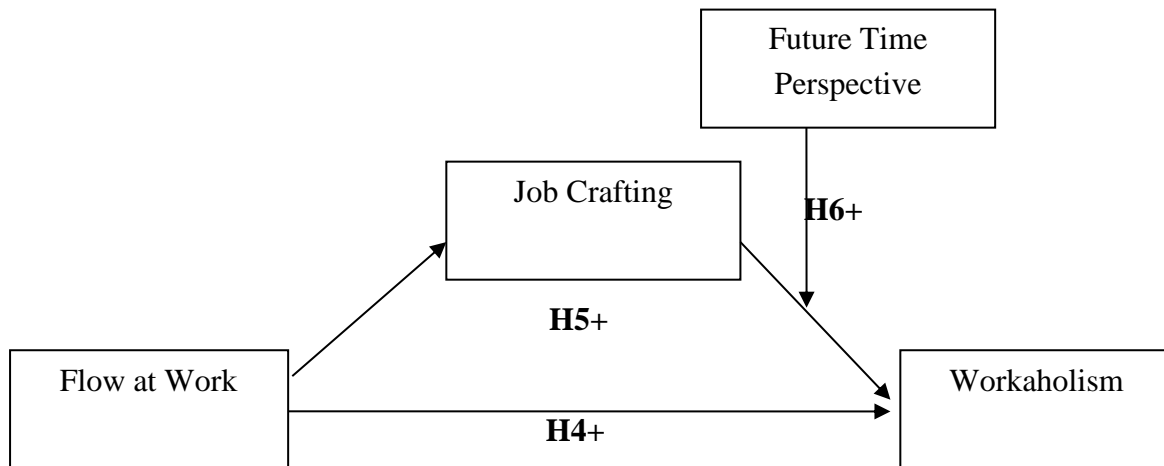
(Zimbardo & Boyd, 1999). Furthermore, this time perspective is related to a number of positive consequences, such as higher socioeconomic status, superior academic achievement, and fewer risk-taking behaviors (D'Alessio, Guarino, De Pascalis, & Zimbardo, 2003).

Why would future time perspective enhance the effect of job crafting on workaholism? Future-oriented individuals are good at setting and achieving goals and planning strategies to meet long-term obligations (Bembenutty & Karabenick, 2004; Zimbardo & Boyd, 1999). Therefore, future-oriented employees know what their desired achievements, preferences, needs, skills and abilities. They also know which resources and challenges they need to achieve planned long-term goals. Thus, future-oriented employees will more likely to actively participate in changing the design of their jobs by seeking necessary tasks, negotiating different job content, seeking proper job resources, decreasing unnecessary work demands, and assigning meaning to their task—in short, crafting their job (Parker & Ohly, 2008; Tims et al., 2012)—to follow their strategy to meet long-term obligations. I propose that future-oriented job crafters will more likely engage in job crafting to: (1) change the task boundaries by altering the type or number of tasks that they carry out; (2) change rational boundaries such as range, nature, or number of their interactions at work; and (3) alter their views of their work (Tims et al., 2014). All changes will be in line with their planned goals.

Furthermore, workaholics are generally task-oriented, highly motivated employees who lack the ability to relax (Oates, 1971; G. Porter, 1996). This is also true for future-oriented employees. Employees with high future time perspective will be willing to sacrifice time today for future rewards (Zimbardo & Boyd, 1999). Thus, it can be expected that future-oriented employees will craft their jobs in line with future goals and be willing to spend as much time and effort as needed to meet their planned activities. Future goals will stimulate future-oriented employees to spend a great amount of time and effort on work-related activities and work beyond what is expected from the organization. Therefore, I predict that future time perspective will enhance the impact of job crafting on workaholism (see Figure 13). I therefore hypothesize as follows:

Hypothesis 6: Future time perspective moderates the indirect relationship between flow and workaholism, as mediated by job crafting. The higher the future time perspective, the more positive the relationship.

Figure 13: Summary of Hypothesis ^a



^a In Hypothesis 4 I propose direct relationship between flow at work on workaholism. I propose and depict a mediating effect of job crafting and moderating effect of future time perspective on the indirect relationship between flow and workaholism, as mediated by job crafting.

4.2.5 An inverted U-shaped relationship between flow at work and satisfaction with work life balance

There is a call in the literature for systematic study of the cost of positive experience (Grant & Schwartz, 2011; Pierce & Aguinis, 2013). Grant and Schwartz (2011) argued there was no such thing as an unmitigated good and acknowledged flow is a plausible candidate for inverted U-shaped relationship. Thus, although flow is perceived as positive, it can reach inflection points at which its effects turn negative. I propose the inverted U-shaped relationship between flow at work and SWLB.

Flow motivates activity and is characterized by absorption, work enjoyment and intrinsic work motivation (Bakker, 2008). Employees often in flow are highly motivated to work (Csikszentmihalyi & LeFevre, 1989), enjoy their work, feel happier and can work actively for a longer period of time (Csikszentmihalyi, Kolo, & Baur, 2004). For example, Fullagar and Kelloway (2009) found that students who experienced flow were happier and more attentive, excited and involved in their tasks. Moreover, flow promotes positive emotions, such as joy, curiosity, enthusiasm and confidence (Chen, Wigand, & Nilan, 1999; Graham, 2008; Zaman, Anandarajan, & Dai, 2010). Thereby, flow is so valuable, positive and satisfying that employees will be motivated to continually experience it at work, even if that means constantly investing time and energy in work activity (Bakker, 2005; Csikszentmihalyi, 1997; Pilke, 2004). This will mean less time and energy to devote to their family responsibilities (Greenhaus & Beutell, 1985). Or, as Trevino and Webster (1992) put it, when in flow, individuals may neglect all other duties.

Life balance can be defined as subjective judgment of an appropriate distribution of time and energy spent in major life domains that will allow individuals to perceive life as satisfying and balanced (Gröpel & Kuhl, 2006). Therefore, high levels of flow may also influence employees' SWLB, the perceived contentment resulting from an evaluation of how successfully one copes with demands at work and in the family (Valcour, 2007). SWLB has two components: a cognitive one, which involves the perception and appraisal of one's degree of success in achieving work-family balance; and an affective one, which entails emotional states or positive feelings emanating from these perceptions and appraisals (McNamara, Pitt-Catsouphes, Matz-Costa, Brown, & Valcour, 2012). Work-life balance theory suggests that SWLB enables individuals to enjoy a commitment to personal and work domain. However, individuals who spend too much or too little time in different domains of their lives have poorer life balance (Kuhnle, Hofer, & Kilian, 2012). Namely, as discussed in the previous section, employees who experience high levels of flow at work may be willing to devote considerable time and energy to work-related activity. Therefore, they will have less SWLB. Hence, I hypothesize as follows:

Hypothesis 7: There will be an inverted U-shaped relation between flow at work and satisfaction with work life balance.

4.3 METHODS

4.3.1 Sample and Procedures

Empirical data for the analysis came from professors, teachers, and researchers (individual level), including in which country participants work. Data were collected in 24 European countries using an Internet-based survey, e-mailed to the professors, teachers, and researchers via country representatives. In each country I chose the country representatives, who had access to English-speaking professors, teachers, and researchers in their country and who sent an email with my survey to the target participants. All respondents received anonymity and some items in the questionnaire were reverse-coded. Altogether, 169 professors, teachers and researchers responded to the survey. 23 questionnaires were excluded from further analysis due to missing values in more than 10% of variables. The final sample consisted of 146 responses. The number of respondents per country ranged from two to 29 (see Appendix B). About 41% were between 31 and 40 years of age, and about 39% were male. A total of 55% reported having a doctoral degree, 57% reported less than 10 years of working for their current employer, 24% reported working as teaching assistants, and 65% reported working more than 40 hours a week.

4.3.2 Measures

Unless otherwise noted, seven-point Likert-type scales ranging from 1 (“never”) to 7 (“always”) were used in the study. The following describes the measurement scales used for focal and control variables.

Flow. Flow was self-reported and assessed with a 13-item Work-Related Flow scale (WOLF) developed by Bakker (2008). The scale opens with “The following statements refer to the way in which you experienced your work during the last two weeks.” It also includes such items as “When I am working, I forget everything else around me,” “I do my work with a lot of enjoyment,” and “I find that I also want to work in my free time.” ($\alpha = 0.93$).

Job crafting. Job crafting was self-reported and measured according to a 21-item questionnaire developed by Tims, Bakker and Derks (2012)— $\alpha = .84$, which includes such items as “I try to develop my capabilities,” “I make sure that my work is mentally less intense,” and “I ask my supervisor to coach me.” ($\alpha = 0.84$).

Future time perspective. Participants self-reported and measured future time perspective using 13 items from the Zimbardo Time Perspective Inventory (Zimbardo & Boyd, 1999) which reflect general orientation towards the future (“I believe that a person's day should be planned ahead each morning” and “I keep working at difficult, uninteresting tasks if they will help me get ahead”)— $\alpha = 0.75$. Using a 7-point scale ranging from 1 (“not at all characteristic of me”) to 7 (“very characteristic of me”), participants rated the extent to which each of the 13 behaviors was characteristic of them.

Workaholism. Workaholism was self-reported and assessed with a 25-item Workaholism Battery scale developed by Spence and Robbins (1992)— $\alpha = .83$, which includes such items as “My job is so interesting that it often doesn't seem like work,” “I feel obliged to work hard even when it's not enjoyable,” and “Wasting time is as bad as wasting money.” Responses on the 7-point scale ranged from 1 (“Strongly Disagree”) to 7 (“Strongly Agree”).

Satisfaction with work life balance (SWLB). I measured SWLB using a five-item measure developed by Valcour (2007). Response options range from 1 (“very dissatisfied”) to 7 (“very satisfied”). A sample question is, “How satisfied are you with the way you divide your time between work and personal or family life?” ($\alpha = .94$).

Control variables. Participants' age, gender, education, years of working for current employer, work position and working hours per week were included as control variables.

4.3.3 Results

Respondents self-reported all data on the same questionnaire during the same period. Thus, I conducted two post hoc statistical tests to test the presence of common method bias before testing the proposed relationships. Harman's one-factor test revealed that one factor did not account for a majority of the variance (45%), suggesting that common method variance is not of great concern (Chang, Van Witteloostuijn, & Eden, 2010; Podsakoff, MacKenzie, Lee, & Podsakoff, 2003; Podsakoff & Organ, 1986). Also, I performed a confirmatory factor analysis (CFA) by modeling all items as the indicators of a single factor. It did not fit the data well (Chi-square [2484] = 6378.378; $p = 0.000$; CFI = 0.381; TLI = 0.363; RMSEA = 0.117), suggesting that common method variance is not largely responsible for the relationship among proposed variables (Mossholder, Bennett, Kemery, & Wesolowski, 1998). Results of both post hoc statistical tests suggest that common method variance is unlikely to confound the interpretations of results; thus, I tested the proposed relationships.

Means, standard deviation, correlations and reliability coefficients for the key study variables appear in Table 23. Based on Cronbach's alpha, coefficients all measurement scales are internally consistent. They all exceed the 0.70 criterion established in the literature (Hair, Anderson, Tatham, & William, 1998) and thus may be accepted.

Because individual respondents worked in different European countries, I applied random coefficient modeling using HLM (Hierarchical Linear Modeling) software package version 7.0 (Raudenbush & Bryk, 2002) with a maximum likelihood estimation to test my hypotheses. This approach allowed us to determine whether the nesting within countries violated assumptions of independence and to model potential interdependence in my dependent variable by partitioning its variance into a within-country and between-country component. The fixed effects with robust standard errors for all models are presented in Table 24.

I followed the causal steps approach suggested by Krull & MacKinnon (2001) to evaluate the mediating role of job crafting on the association between flow and workaholism. In the first step (Model 1), as well as other control variables, I entered flow to establish that the independent variable X (flow) influenced the dependent variable Y (workaholism). The results show (supporting Hypothesis 4) that flow is positively and significantly related to workaholism (Model 1: $\gamma = 0.35$, $p = 0.005$). Of the control variables, working hours per week was marginally significantly related to workaholism (Model 1: $\gamma = 0.15$, $p = 0.07$). The second step (Model 2) was to establish that the independent variable X (flow) influenced the mediator M (job crafting). Supporting step 2 of mediated relationship, flow was positively related to job crafting (Model 2: $\gamma = 0.51$, $p < 0.001$). In the third step (Model 3), I demonstrated that the mediator M (job crafting) influenced the dependent

variable Y (workaholism), when controlling for the independent variable Y (flow). As shown in Model 3, the coefficient for job crafting was positive and significant; indicating that job crafting affected workaholism. Furthermore, with job crafting in the equation, the relationship between flow and workaholism was significant (Model 3: $\gamma = 0.25$, $p = 0.002$), but the coefficient for flow was lower than the coefficient of flow in the direct relationship between flow and workaholism (Model 1: $\gamma = 0.35$, $p < 0.001$). These results support Hypothesis 5.

I then tested the full model for the moderated mediation effect. Thus, I examined the interaction effect between job crafting and future time perspective. It was only marginally significant (Model 4: $\gamma = 0.13$, $SE = 0.08$, $p = 0.10$). Although results show that future time perspective interacts with job crafting to influence workaholism, they do not directly assess the conditional indirect effect depicted in Figure 13. Therefore, based on the recommendations of Preacher, Rucker, and Hayes (2007) I examined the conditional indirect effect of flow on workaholism through job crafting at three values of future time perspective: -1 SD below the mean (4.32), at the mean (4.79), and 1 SD above the mean (5.27). As depicted in Table 24, the normal-theory test indicated conditional indirect effect at mean and 1 SD above the mean were significantly different from zero, while the -1 SD conditional indirect effect was not (Preacher et al., 2007).

Because normal-theory test assumes normality of the sampling distribution of the conditional effects, I obtained 95% bootstrapped confidential intervals. Results show the conditional indirect effect for the mediated relationship in the high future time perspective (+ 1 SD .11, $p = .02$, 95% CI = 0.01-0.13) significant and stronger than conditional effect for the mediated relationship in low future time perspective (- 1 SD 0.5, $p = 0.19$, 95% CI = 0.01-0.13), which was not significant. This partially supported Hypothesis 6. Employees are more likely to craft their job and become workaholics when their future time perspective is stronger.

Table 23: Means, Standard Deviations, and Correlations^{a, b, c, d, e, f}

Variable	Mean	SD	1	2	3	4	5	6	7	8	9	10
1 Age ^b	3.49	1.15	-									
2 Gender ^c	1.58	.54	-.10	-								
3 Education	6.36	.87	.12	-.23**	-							
4 Working for current employer ^d	3.20	1.31	.60**	-.13	.19*	-						
5 Work position	3.95	2.09	-.15	.19*	-.54**	-.32**	-					
6 Working hours per week ^e	2.54	.69	.08	-.11	.16	.06	-.14	-				
7 Flow	4.71	1.09	.03	-.07	.19*	-.01	-.26**	.07	(.93)			
8 Job crafting	4.18	.70	-.26**	.02	.00	-.23**	-.05	.04	.36**	(.84)		
9 Future time perspective	4.79	.47	-.05	.02	.03	-.17*	-.04	.19*	.34**	.39**	(.75)	
10 Workaholism	4.71	.69	-.15	-.05	.12	-.14	-.14	.15	.63**	.40**	.47**	(.83)

^a n = 146.

^b 1 = "up to 20 years," 2 = "21-30 years," 3 = "31-40 years," 4 = "41-40 years," 5 = "51-60 years," 6 = "61 years of more."

^c 1 = "male," 2 = "female."

^d 1 = "less than a year," 2 = "less than 5 years," 3 = "less than 10 years," 4 = "less than 15 years," 5 = "more than 15 years."

^e 1 = "less than 40 hours a week," 2 = "40 hours a week," 3 = "more than 40 hours a week."

^f Coefficient alphas are on the diagonal in parentheses.

*p < .05, **p < .01, ***p < 0.001.

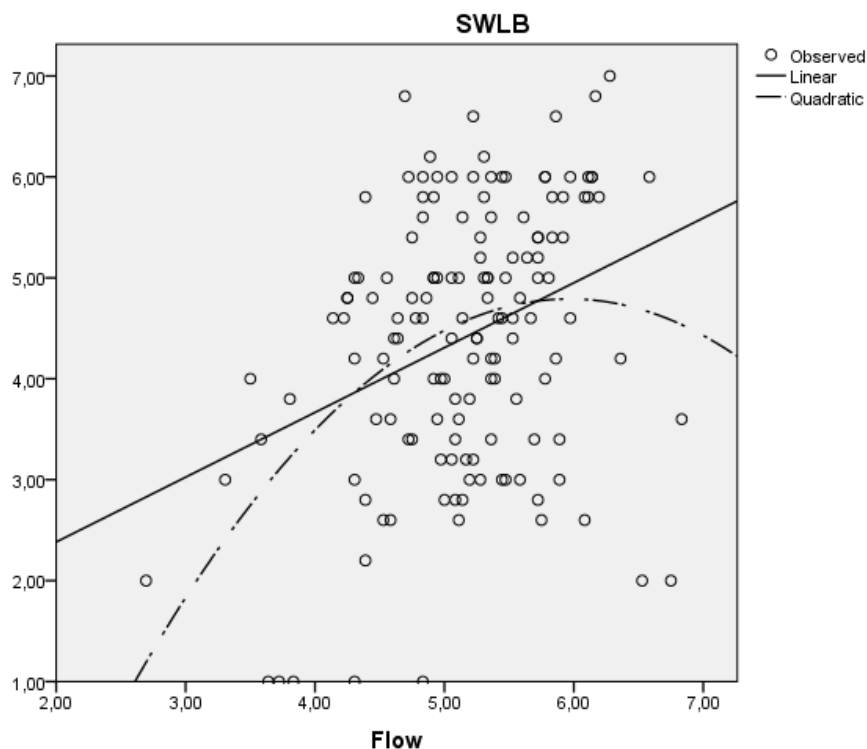
Table 24: HLM Results for the Mediation Model and the Moderated Mediation Model^{a, b, c, d, e}

	Model 1	Model 2	Model 3 Mediation model	Model 4 Moderated mediation model
	$X_j \rightarrow Y_{ij}$	$X_j \rightarrow M_{ij}$	$X_j, M_i \rightarrow Y_{ij}$	
Intercept	2.59** (.68)	1.95** (.69)	2.25** (.51)	1.04 [†] (.54)
Age	-.06 (.06)	-.06 (.07)	-.04 (.06)	-.06 (.06)
Gender ^c	-.04 (.11)	.10 (.12)	.07** (.12)	-.07 (.11)
Education	.08 (.07)	.02 (.06)	.07 (.07)	.07 (.06)
Working for current employer	-.06 (.06)	-.10 [†] (.05)	-.04 (.06)	-.01 (.07)
Work position	-.03 (.03)	.00 (.03)	-.03 (.03)	-.03 (.03)
Working hours per week	.15 [†] (.08)	.18* (.06)	.12 (.09)	.08 (.08)
Flow	.35** (.08)	.51** (.14)	.25** (.08)	.19** (.08)
Job crafting			.20** (.08)	.14* (.07)
Future time perspective				.43** (.14)
<i>Interaction effects</i>				
Job crafting × Future time perspective				.13[†] (.08)
Pseudo R ^{2d}	.18	.23	.22	.29
Deviance	297.96	353.79	290.78	281.04
	Conditional indirect effect at N-exp = M +/- SD			
Future time perspective	Boot Ind. Eff.	Boot SE	Boot z	Boot p
- 1 SD (4.32)	.05	.04	1.32	.19
M SD (4.79)	.08	.04	2.26	.02
+ 1 SD (5.27)	.11	.05	2.31	.02

^a n = 146 (individual level), 24 (country level); ^b Robust standard errors are presented next to fixed effects in parentheses; ^c Values in bold are relevant to the tests of the hypotheses; ^d We report Snijders and Bosker's ((1999)) overall pseudo R² for each model. These estimates are based on proportional reduction of Level 1 and Level 2 errors owed to predictions in the model; ^e Based on 5,000 bootstrap samples; Boot Ind. Eff. Bootstrap indirect effects; ** p < .01, * p < .05, [†] p ≤ .10

Further, the moderated hierarchical regression analysis helped test the Hypothesis 7. First, I grand-mean-centered independent variables to reduce unnecessary multicollinearity between the linear terms and their quadratic counterparts (Aiken & West, 1991). Next, to test the prediction that flow would have a curvilinear relation to SWLB (Hypothesis 7), I introduced the quadratic term of flow (flow squared) in the regression equation. The coefficient associated with this term was negative and statistically significant ($\beta = -.32$, $p = .02$), supporting Hypothesis 7. I plotted an inverted U-shaped relationship between flow at work and SWLB in Figure 14.

Figure 14: An inverted U-shaped relationship between flow at work and SWLB



4.4 DISCUSSION

Workaholism can harm social relationships outside work, physical well-being, and life satisfaction. It can also cause direct and indirect costs for an organization. Thus, understanding its nature and causes is critically important for employers and employees. However, empirical data on why and how individuals become workaholics remains very limited (Andreassen, Ursin, Eriksen, & Pallesen, 2012; Ng et al., 2007). The aim of this chapter identifies conditions under which workaholism occurs. Specifically, I have drawn on flow theory (Csikszentmihalyi, 1991) to examine the relationship between flow at work, job crafting, future time perspective and workaholism. The study provides evidence in support of my first hypothesis, revealing that flow experience is associated with workaholism. In line with the second hypothesis, my results showed the mediating role of

job crafting on the relationship between flow and workaholism. Moreover, I also found support for my third hypothesis by demonstrating the moderating role of future time perspective. Specifically, my results indicated that high future time perspective orientation strengthens the association between job crafting and workaholism. Finally, I also examined and found support for an inverted U-shaped relationship between flow at work and SWLB.

4.4.1 Theoretical Contributions

This research takes a step toward understanding the conditions under which workaholism occurs. It contributes to workaholism, flow, and job crafting literature. I proposed and found that flow experience is associated with workaholism: the more often employees experience flow at work, the more likely they will become workaholics. Studies have begun to identify individual dispositions (Scott et al., 1997), socio-cultural experiences (Oates, 1971), and behavioral reinforcements in the work environment that may cause workaholism (Ng et al., 2007). However, there is still no agreement regarding its nature and causes (Bartczak & Oginska-Bulik, 2012). Furthermore, the relationship between enjoyment and workaholism is not entirely clear (McMillan, Brady, O'Driscoll, & Marsh, 2002). Thus, I contribute to the workaholism theory by revealing and explaining the conditions under which enjoyment may lead to workaholism.

The study demonstrates that job crafting mediates the relationship between flow experience and workaholism. Researchers have recognized that employees craft their jobs to create opportunities to work on enjoyable and meaningful tasks and thereby (1) devote more attention, time, and energy to such task, (2) take an additional task that provides enjoyable and meaningful experience, and (3) reframe the social purpose of work to align with that individual's enjoyable and meaningful experience (Berg et al., 2010). However, to the best of my knowledge, no research has empirically examined the relationship between job crafting and workaholism. My emphasis on job crafting answers a call to deepen our understanding of workaholism (Harpaz & Snir, 2003; Tabassum & Rahman, 2013) by introducing new behavioral reinforcements in the work environment that may cause it. I also introduce future time perspective as a new mechanism for explaining the mediating role of job crafting on the relationship between flow and workaholism. Taken together, I contribute to workaholism theory by examining the circumstances under which it occurs and by demonstrating an association between flow experience, job crafting, future time perspective and workaholism.

Furthermore, theoretical and empirical findings contribute also to the flow theory. Systematic review revealed that few have examined negative consequences of flow and none have done so in the work setting. However, several researchers suggest that it is necessary to identify the point in time when flow shifts into addiction and gain more knowledge about negative consequences of flow (Khang et al., 2013; Ross & Keiser,

2014). Thus, I contribute to the flow theory by demonstrating that individuals who often experience flow at work may develop a tendency to repeat the activity and may thus activate addiction through repetition of work activities (Chou & Ting, 2003; Trayer et al., 2012). Therefore, flow experience may influence the development of workaholics' behavior patterns, such as voluntarily spending more time and energy on work-related activities, thinking about work on ongoing basis and working hard; and thereby influence workaholism. I also demonstrated that flow stimulates employees to craft their job and thereby proactively create work in accordance with their needs, preferences, abilities and challenges. In addition, I also contribute to flow theory by providing empirical evidence for an inverted U-shaped relation between flow at work and SWLB. To the best of my knowledge, this is the first study that has proposed and found empirical evidence for the too-much-of-a-good-thing effect of flow. The results suggest that flow can reach an inflection point at which its effects turn negative and decrease SWLB.

Finally, this study deepens our knowledge about job crafting. I answered the call to explore the dark sides of job crafting (Grant & Ashford, 2008) by highlighting how job crafting that brings enjoyment and meaning can also expose individuals into experiencing workaholism. The contribution to job crafting literature is an empirical examination. I proposed and found that future-oriented employees will more likely craft their jobs and thereby more likely become workaholics. Furthermore, I addressed calls to explore the antecedents of job crafting motivation (Wrzesniewski & Dutton, 2001) by proposing flow experience as a possible antecedent of job crafting. The process of job crafting begins when individuals are motivated to craft their jobs (Berg et al., 2008) and continuously seek greater challenges and develop greater skills to reach those challenges, all in order to achieve flow over and over again. Thus, I contribute to the job crafting theory by providing evidence that the desire to continuously experience flow at work presents the possible antecedent for job crafting.

4.4.2 Practical Implications

Since workaholism is increasing (van Beek et al., 2012) and there are no indications of a trend in the opposite direction, managers must face how to reduce it. The results offer some practical implications. First, this research proposes that continuous flow at work may lead to addiction to work. Thus, even though flow at work is associated with positive consequences, such as joy, curiosity, enthusiasm, creativity, working long hours, work motivation and many others, which are beneficial for organizations, managers should pay attention when introducing factors that stimulate flow experience at work. Too much flow at work leads to workaholism and implies direct and indirect costs in terms of poor well-being, as well as physical and mental health (Ng et al., 2007).

Furthermore, job crafting enables employees to create a work environment more in line with their needs, preferences, skills, and abilities. Job crafting is also related to implementation of meaningful and more responsible work. The results of this study suggest that employees who often experience flow will be motivated to craft their job. If managers are interested in boosting job crafting, when selecting employees, they should consider whether individuals find this job interesting and whether they will be able to experience flow when performing it. Also, managers should provide employees with opportunities to experience flow at work and stimulate job crafting. However, even though managers may perceive job crafting as a positive influence on organizational outcomes, they should be aware that job crafting may also be related to higher costs due to the workaholism. Employees who craft their job may become more involved in their work and thereby spend more hours at work, thus becoming workaholics. Also, the results suggest that future oriented employees will more likely become workaholics. Thus, managers should pay attention to the effect of job crafting on employees. Specifically, they should carefully monitor employees who often craft their job and prevent the potential negative consequences for the employees and the organization. They should also be careful when promoting job crafting behavior, in light of its contribution to workaholism.

4.4.3 Limitations and Suggestions for Future Research

These contributions should be qualified in term of several limitations. First, I used the Workaholism Battery scale developed by Spence and Robbins (1992), which reflects three workaholism components: work involvement, drive, and enjoyment of work. I am aware that the validity of the sub-dimensions of workaholism has recently been questioned (McMillan et al., 2002; Ng et al., 2007); however, they are still the most frequently used and recognized sub-dimensions in research on workaholism (Andreassen, Hetland, & Pallesen, 2010). Thus, I used these sub-dimensions of workaholism to develop the theoretical framework and used the Workaholism Battery scale to measure workaholism. Future research can address this issue by using some other scales to measure workaholism.

Second, I did not directly test the relationship between specific dimensions of flow, job crafting, and workaholism. In the empirical part of the study, I used entire constructs. Future research in exploring the relationship between specific dimension of flow, job crafting, and workaholism can deepen our understanding of proposed relationships and is therefore required. Thirdly, the data was all self-reported, which raises concerns about common method bias. For this reason, when collecting the data, some items in the questionnaire were reverse-coded, and respondents were assured anonymity. Also, the results of two post hoc statistical tests (i.e. Harman's one-factor test and the one factor CFA) suggested that common method variance should not be of great concern and it is unlikely to confound the interpretations of results. However, the results of these tests do not preclude the possibility of common method variance. Thus, future research should test

a proposed model by collecting data from multiple sources and conducting experimental studies. Also, the data was cross-sectional; thus future research should test a proposed model by collecting data in a longitudinal way.

Further research should also use Experience Sampling Method to better understanding of workaholism. It would help us to answer the question of how workaholics usually feel when engaged in work activities. Do they spend excessive amount of time at work because they enjoy their work (workaholism as a positive phenomenon) or because they feel compelled (workaholism as a negative phenomenon)? Future research should also examine whether workaholism is a process that starts with work enjoyment and over time evolves into addiction.

Also, empirical data used in the analysis came from professors, teachers, and researchers. I chose them as a target population for two reasons. First, they frequently report their work activities as a source of flow (Delle Fave & Massimini, 1988). Second, advanced technology allows them to perform computer-based working wherever and whenever. The nature of their work allows them to continue to focus on work even when not at work (e.g. lecture preparation, reading and writing papers) without violating potential organizational constraints, rules, practices, or legislation related to time that employees are required or allowed to spend at work. Thereby, I avoid the possibility that different rules and regulations in different European countries would influence the results of the study. However, future research should test a proposed model by collecting data from different target populations, and to control for organizational and country specific factors relating to time spend at work.

5 GENERAL DISCUSSION

In this chapter, I summarize the research efforts of my doctoral dissertation, which have been examined and described in the previous chapters. In what follows, I summarize the main findings, describe the theoretical and methodological contributions of my dissertation, and outline the practical implications. Finally, I also outline the main limitations of the dissertation and propose avenues for future research.

5.1 Summary of the main findings of the dissertation

The aim of the dissertation was to examine the potentially negative consequences of flow. To accomplish this aim, the following steps were undertaken: a qualitative and quantitative literature review was conducted (Chapter 1), a scale for ethical blindness in the workplace scale was developed (Chapter 2), and quantitative research was conducted to empirically examine the relationship between flow and its two potential negative consequences (Chapter 3 and 4). In Tables 25, 26, 27, and 28, I summarize the main findings of each chapter, how I obtained them, the hypotheses and their status, theoretical contributions and practical implications.

In Chapter 1, I analyzed the flow literature and thereby provided insights into the antecedents, characteristics, and consequences of flow experience that have so far been examined in various settings. I found that the flow literature was fragmented, operationalized, tested, and applied in numerous ways across various domains. I also identified four dominant disciplines within flow literature: psychology, sport psychology, marketing, and computer-human interaction. Moreover, I identified the most commonly reported characteristics of flow and 39 individual and environmental antecedents, among which four individual antecedents (balance between task demand and ability, intrinsic motivation, achievement orientation, and passion) and four environmental antecedents (job resources, job characteristics, job dimensions, and leadership style) were applied or tested in the work environment. I also identified 40 consequences, among which only six were applied or tested in the work environment: performance, changes, adaptations, exploratory behavior, well-being, and creativity. In addition, I found that in the previous studies flow was most commonly compared with the following related constructs: intrinsic motivation, engagement, involvement, peak experience and performance, and thriving. Finally, I found that that past findings across various domains could provide us with plausible antecedents, characteristics, and consequences of flow that could be tested in the work setting.

In order to empirically examine the relationship between flow and unintentional unethical behavior, I developed an ethical blindness scale. I followed the scale-development procedure guides presented in Chapter 2. Based on the qualitative data (17 interviews) and three quantitative data sets, I found that ethical blindness is a multidimensional construct

and developed an ethical blindness scale for the workplace consisting of 13 items measuring the following dimensions of ethical blindness: rationalization (five items), routine (four items), and ignorance (four items).

The aim of Chapter 3 was to examine the antecedents and negative consequences of flow at work. Specifically, in this chapter I proposed that goal clarity would increase focus on the task, causing employees to ignore the ethical components when pursuing the given goals. However, I found a negative association between goal clarity and ethical blindness, thus failing to provide evidence to support my first hypothesis. Moreover, contrary to expectation, I found that flow decreases the likelihood of ethical blindness. Thus, I did not find evidence of possible negative ethical consequences of flow and, on the contrary, suggested positive consequences of flow when applied to ethics. In this chapter I proposed that time pressure would increase the level of ethical blindness, but found that time pressure also decreased the level of ethical blindness. Finally, I also found that when time pressure and flow are low, ethical blindness will be also low. However, when flow is high, ethical blindness will be low irrespective of the level of time pressure. Taken together, contrary to expectation, the findings of this chapter highlighted two novel positive consequences of flow: flow decreases unintentional unethical behavior and mitigates the negative effect of time pressure.

In Chapter 4 I proposed and found that employees who often experience flow at work will more likely experience workaholism. Thus, they will voluntarily spend more time and energy on work-related activities and thereby neglecting other important (family and social) activities. Thereby, I demonstrated the negative consequences of flow. Further, I also demonstrated that flow stimulates employees to craft their job and thereby proactively create work in accordance with their needs, preferences, abilities, and challenges. Related to that I found that employees are more likely to craft their job and become workaholics when their future time perspective is stronger. Finally, I also found evidence for an inverted U-shaped relation between flow at work and SWLB and thereby demonstrated the too-much-of-a-good-thing effect of flow.

Table 25: Summary of the main findings and contributions – Chapter 1

Chapter 1: Flow experience: bibliometric co-citation analysis and a systematic review of the literature	
Research objective	<p><i>O1</i>: To summarize research evidence on flow experience from various domains.</p> <p><i>O2</i>: To investigate the characteristics, antecedents, and consequences of flow.</p> <p><i>O3</i>: To identify and compare similarities and differences between flow and other related constructs.</p> <p><i>O4</i>: To synthesize past findings into a comprehensive framework of flow at work.</p>
Study type	Quantitative and qualitative literature review, co-citation analysis, systematic review analysis.
Main findings	<p>Identification of four dominant disciplines within flow theory.</p> <p>Identification of 39 individual and environmental antecedents of flow, among which only four individual and four environmental antecedents were applied or tested in the work environment.</p> <p>Identification of 40 consequences of flow, among which only six were applied or tested in the work environment.</p> <p>Identification of six related constructs.</p> <p>Identification of the most important issues within the field.</p>
Theoretical contributions	<p>Synthesis of past research findings on flow experience across various disciplines.</p> <p>Application of the findings across various domains to flow in the work context.</p> <p>Development of a comprehensive framework of flow at work.</p>

Table 26: Summary of the main findings and contributions – Chapter 2

Chapter 2: Developing a measure of ethical blindness in the workplace	
Research objective	<i>OI</i> : To develop a comprehensive scale that measures ethical blindness at work.
Study type	Semistructured interviews – 17 interviews with employees from Slovenia, Croatia, and Germany from different sectors; pilot study (n = 27); three field studies (n ₁ = 185; n ₂ = 109; n ₃ = 178) – primary data, collected from European employees; content validity evaluation; internal consistency analysis; exploratory factor analysis; confirmatory factor analysis.
Main findings	Development of 13-item multidimensional measure of ethical blindness. Identification of three dimensions of ethical blindness in the workplace. Providing preliminary evidence of construct and discriminant validity. Scale validation.
Theoretical contributions	Conceptualization of ethical blindness at work. Providing empirical evidence that ethical blindness is a multidimensional construct consisting of the 13 items measuring the following dimensions: rationalization (five items), routine (four items), and ignorance (four items). Providing empirical evidence that three dimensions of ethical blindness at work – rationalization, routine, and ignorance – are demonstrably separate from organizational and interpersonal deviance as well as counterproductive work behavior.
Practical implications	Managers should create a safe work environment to reduce the rationalization. Managers should highlight the importance of the ethical components when performing routine tasks. Managers should decrease ignorance by sharing knowledge among employees, drawing attention to important information and knowledge, and supervising employees who may become ethically blind due to the lack of experience.

Table 27: Summary of the main findings and contributions – Chapter 3

Chapter 3: Antecedents and consequences of flow: examining the relationship between goal clarity, flow, and ethical blindness

Hypothesis (status)	<p><i>Hypothesis 1:</i> Goal clarity is positively associated with ethical blindness. (not supported)</p> <p><i>Hypothesis 2:</i> Flow mediates the association between specific goals and ethical blindness. (supported)</p> <p><i>Hypothesis 3:</i> Time pressure moderates the indirect relationship between clear goals and ethical blindness, as mediated by flow. The higher the time pressure, the more positive the relationship. (partially supported)</p>
Study type	Field study – 151 respondents, mediation, moderated mediation, moderation.
Main findings	<p>Goal clarity reduces ethical blindness at work.</p> <p>The higher the time pressure, the more negative the indirect relationship between clear goals and ethical blindness, as mediated by flow.</p> <p>Low levels of time pressure and flow lead to low level of ethical blindness at work.</p> <p>When flow is high, ethical blindness will be low, irrespective of the level of time pressure.</p>
Theoretical contributions	<p>Providing an explanation and empirical evidence of causal mechanisms for flow occurrence.</p> <p>Conceptualization of the relationship between flow and ethical blindness.</p> <p>Providing empirical evidence for positive consequences of flow when applied to ethics.</p> <p>Providing empirical evidence that flow can mitigate the negative consequences of time pressure.</p> <p>Theoretical conceptualization and empirical examination of antecedents of ethical blindness in organizations.</p>
Practical implications	<p>When selecting employees, managers should also consider whether work characteristics and challenges will allow individuals to experience a high level of flow at work.</p> <p>Managers should set clear and specific goals and thereby promote flow at work, decrease ethical blindness at work, and reduce the negative consequences of time pressure.</p>

Table 28: Summary of the main findings and contributions – Chapter 4

Chapter 4:	
Hypothesis (status)	<p><i>Hypothesis 4:</i> Flow is positively associated with workaholism. (supported)</p> <p><i>Hypothesis 5:</i> Job crafting mediates the association between flow and workaholism. (supported)</p> <p><i>Hypothesis 6:</i> Future time perspective moderates the indirect relationship between flow and workaholism, as mediated by job crafting. The higher the future time perspective, the more positive the relationship. (partially supported)</p> <p><i>Hypothesis 7:</i> There will be an inverted U-shaped relation between flow at work and SWLB. (supported)</p>
Study type	Field study – 169 professors, teachers, and researchers from 24 European countries; random coefficient modeling using HLM, mediation, moderated mediation.
Main findings	<p>The more often employees experience flow at work, the more likely they will become workaholics.</p> <p>High future time perspective orientation strengthens the association between job crafting and workaholism.</p> <p>There is an inverted U-shaped relation between flow at work and SWLB.</p>
Theoretical contributions	<p>Revealing and explaining the conditions under which enjoyment may lead to workaholism.</p> <p>Introducing new behavioral reinforcements in the work environment (i.e., job crafting) that may cause workaholism.</p> <p>Conceptualization of the relationship between flow and workaholism.</p> <p>Providing empirical evidence that flow at work may lead to addiction.</p> <p>Providing empirical evidence for too-much-of-a-good-thing effect of flow.</p>
Practical implications	<p>Managers should pay attention when introducing factors that stimulate flow experience at work.</p> <p>Managers should provide employees with opportunities to experience flow at work and stimulate job crafting.</p> <p>Managers should be careful when promoting job crafting behavior, in light of its contribution to workaholism.</p>

5.2 Theoretical contributions of the dissertation

This dissertation takes a step toward understanding flow in the work setting and thereby suggests several contributions for *flow theory*. To the best of my knowledge, to date no review has synthesized past research findings of flow across different domains. Bibliometric methods, reviews, and meta-analyses of flow literature are rare and narrowly focused on specific facets of flow experience (e.g., Boyle, Connolly, Hainey, & Boyle, 2012; D’Mello, 2013; Dietrich, 2004; Finneran & Zhang, 2003). Thus, I contribute to the flow theory synthesizing past research findings on flow experience across various domains (Chapter 1). More precisely, I provide insights into the antecedents, characteristics, and consequences of flow experience that have so far been examined in various settings.

Further, I contribute to the flow literature by providing evidence of overlaps between diverse and fragmented research on flow theory and research on flow at work. I also identify and describe differences and similarities between flow and related constructs. Knowledge about flow in work settings remains limited (Demerouti, 2006; Eisenberger et al., 2005; Fullagar & Kelloway, 2009; Llorens et al., 2013). Therefore, I contribute to theoretical knowledge about flow at work by synthesizing the past research findings on flow theory across the dominant disciplines and combine them into a comprehensive framework of flow at work.

One of the most important contributions of my dissertation is its conceptualization and empirical examination of important and novel theoretical mechanisms in explaining the link between flow and its potentially negative consequences (Chapter 3 and 4). In Chapter 3, I examine the relationship between goal clarity, flow, time pressure, and ethical blindness. Thereby, I make two distinct contributions to the flow literature: (i) I propose and demonstrate that goal clarity is the contextual factor that promotes flow at work, and (ii) I provide a theoretical conceptualization and empirical research on the relationship between flow and ethical blindness. To the best of my knowledge, this study is the first study that empirically examined consequences of flow when applied to ethics. I follow Keller and Bless’s (2008) acknowledgement and propose that flow increases ethical blindness in the organization.

Contrary to expectations, I found that flow prevents ethical blindness. Moreover, empirical evidence from Chapter 3 also suggests that high levels of flow can mitigate the negative consequences of time pressure. Thereby, I provide evidence for another novel positive consequence of flow. In addition, in Chapter 4, I investigate the relationship between flow and workaholism, which is another potential negative consequence of flow (Chapter 4). I contribute to the flow theory by providing evidence that high levels of flow at work may activate addiction through repetition of work activities (Chou & Ting, 2003; Trayer et al., 2012), leading to workaholism. Moreover, I also contribute to the flow theory by providing

evidence for an inverted U-shaped relation between flow at work and SWLB. I thereby demonstrate the too-much-of-a-good-thing effect of flow. Finally, I provide evidence that flow promotes job crafting.

My findings also suggest several contributions for *ethical blindness construct*. Even though ethical blindness has been identified as a construct that can help us to better understand unethical behavior, knowledge about the presence of ethical blindness in organizations, the conditions in which it occurs, and its consequences remains limited. This may be due to the lack of an instrument appropriate for evaluating ethical blindness in organizations. Thus, in Chapter 2 I empirically examine how ethical blindness is manifested and provide evidence that ethical blindness is a multidimensional construct consisting of 13 items measuring the following dimensions: rationalization (five items), routine (four items), and ignorance (four items). Therefore, I contribute to the understanding of the ethical blindness construct by conceptualizing, developing, and testing a comprehensive scale to measure ethical blindness in the workplace.

Further, in Chapter 3 I contribute to the theory by examining the mechanisms that influence the occurrence of ethical blindness in organizations. More precisely, I find empirical evidence that flow at work decreases ethical blindness, whereas, under some conditions, time pressure increases its occurrence. To the best of my knowledge, this is the first empirical examination of antecedents of ethical blindness in a work context.

Further, I provide important insight into the conditions under which workaholism occurs and thereby contribute to *workaholism theory*. I answer the call to examine the relationship between enjoyment and workaholism (McMillan, Brady, O'Driscoll, & Marsh, 2002) and contribute to workaholism theory by examining the conditions under which enjoyment influences workaholism. Specifically, I introduce new behavioral reinforcements in the work environment (e.g., job crafting) and demonstrate that when employees, often in flow, have the opportunity to craft their work, they are more likely to become workaholic. Moreover, I demonstrate that this is even truer for employees who are future oriented (i.e., have strong future time perspective). Taken together, I contribute to workaholism theory by examining the circumstances under which workaholism occurs and by considering flow experience, job crafting, and future time perspective as causal mechanisms.

Finally, my dissertation contributes also to *job crafting theory* by answering the call to explore the dark sides of job crafting (Grant & Ashford, 2008). Namely, I provide empirical evidence that job crafting may lead to workaholism. In addition, I proposed and found that future-oriented employees will more likely craft their jobs and thereby are more likely to become workaholics. Moreover, I contribute to job crafting theory by providing evidence that the desire to continuously experience flow at work presents the possible antecedent for job crafting.

5.3 Practical implications

This dissertation offers several important practical implications for organizations and their employees. In Table 25, 26, 27, and 28 I point out specific implications drawn from the findings and research from each chapter. In what follows, I will explain the practical implications with regard to the managers and human resource professionals.

This dissertation offers several implications for managers. First, I identified eight environmental antecedents of flow (job resources, goal-directed activities, job characteristics, service system, job dimensions, interactivity, culture, and leadership style). This gives managers an idea of how they could promote flow at work and thereby its positive, organizationally relevant outcomes (e.g., creativity, performance, learning, knowledge sharing). Second, the research also shows that the work environment has an important influence on ethical blindness at work. In order to reduce rationalization (one of the dimensions of ethical blindness), managers should clearly communicate organizational rules. They thereby decrease the likelihood that employees will behave unethically due to mixed feelings about what counts as right or wrong in the organization. In relation to that, managers should create a safe environment in which employees will be able to give their opinion without being afraid that they will lose their job because of this.

This research also suggests that managers should set clear and specific goals and therefore set standards and help their employees clearly understand what is expected of them in terms of their task outcome. In doing so, they will increase the occurrence of flow and decrease the likelihood of ethical blindness, resulting in lower financial, reputational, and emotional costs for the organization (Karpoff et al., 2008). However, managers should pay attention when introducing factors that stimulate flow experience at work because too much flow at work leads to workaholism and entails direct and indirect costs in terms of employee well-being and physical and mental health (Ng et al., 2007). Related to this, even though job crafting can influence outcomes that are perceived as positive (by the organization), managers should be aware that job crafting may also be related to higher costs due to workaholism.

Moreover, there are several important implications for human resource professionals that arise from this dissertation. First, I identified 31 individual antecedents of flow experience. This list of individual characteristics needed for experiencing flow could be useful when selecting new employees. Specifically, when selecting new employees human resource professionals can check whether individuals have the proper characteristics to allow them to experience flow at work. Further, when selecting new employees, human resource professionals should also consider whether work characteristics and challenges will allow individuals to experience a high level of flow at work.

5.4 Limitations and future research suggestions

The contributions of my dissertation should be qualified in light of several limitations. One limitation of this dissertation is related to the comprehensive framework of flow at work. The flow literature is very complex, and thus I made several subjective judgments about the quality and relevance of past findings. Therefore, different groups of researchers would inevitably have identified and highlighted different theoretical and empirical findings and, thereby, produced a different comprehensive framework. Therefore, the comprehensive framework of flow at work should be seen as a proposed and not a definitive framework of flow at work. In addition, the focus of this review was to synthesize past research; therefore, this review does not offer detailed insight into past findings. Detailed insight into the past findings would be the next logical step.

A second limitation is related to the development of an ethical blindness scale. Although I have established the validity and reliability of the scale using three samples of employees, additional studies are needed. Additional studies should replicate the measure with other, bigger samples to further validate and generalize the measure. The process of validating a construct is an ongoing one, and only over time and based on evidence from numerous studies will we be able to support the validity of this measure (Bennett & Robinson, 2000; Schwab, 1980). In addition, future research should also explore whether there exist other dimensions of ethical blindness that should be included in the scale. In addition, in this study I defined ethical blindness as a state. However, future research should explore whether ethical blindness should be perceived as a three-stage process that starts with ignorance, proceeds to routine, and ends with rationalization.

Another limitation of this dissertation is related to data collection. The data for all of my studies were self-reported, which raises concerns about common-method bias. I used available methods (i.e., reverse-coded items, anonymity) and post hoc statistical tests (i.e., Harman's one-factor test and the one-factor CFA) to overcome this issue. Post hoc statistical tests suggested that common-method variance should not be of great concern and is unlikely to confound the interpretations of results. Thus, future research should test a proposed model by collecting data from multiple sources and conducting experimental studies. Moreover, I collected five different samples to test my hypothesis. However, all the samples were small (see Table 25, 26, 27, 28,); thus, future research should test the proposed relationship using larger samples. Further, the data were cross-sectional, which limits the ability to demonstrate causality. Future research could benefit from longitudinal designs, which could make it possible to observe variations over time in the variable of interest. In addition, further research should also use the experience sampling method in order to gain a better understanding of ethical blindness and workaholism. This would help us to understand how ethically blind individuals and workaholics feel when engaged in work.

Additionally, I used the Ethical Blindness in the Workplace scale, which measures only unintentional unethical behavior. Thus, this study provides evidence that flow reduces unintentional unethical behavior. Therefore, future research should be conducted to test the relationship between flow and intentional unethical behavior. Similarly, I used the Workaholism Battery scale (Spence & Robbins, 1992) to measure workaholism. I am aware that the validity of the subdimensions of this scale has recently been questioned (McMillan et al., 2002; Ng et al., 2007); however, they are still the most frequently used and recognized subdimensions in research on workaholism (Andreassen, Hetland, & Pallesen, 2010). Future research can address this issue by using some other scales to measure workaholism.

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APPENDICES

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Appendix A: Description of Interviewees

Profession of the interviewee	Industry	Residence	Gender	Duration of the interview (in minutes)	Organizational tenure (in years)	Leader
Doctor	Health care	Croatia	Male	28	7	No.
Logistics manager	Transport and logistic	Germany	Male	43	5	Yes.
Teacher	Education	Germany	Female	36	2	No.
Head of risk department	Banking	Croatia	Male	41	1,6	Yes.
Product manager	Information technology	Slovenia	Male	33	0,2	No.
Financial consultant	Financial services	Slovenia	Female	58	1	No.
Head of the quality assurance office	Education	Slovenia	Female	30	12	Yes.
CTO	Information technology	Slovenia	Male	31	2	Yes.
CEO	Information technology	Slovenia	Male	22	0,5	Yes.
Lawyer	Law	Slovenia	Female	97	0,3	No.
Lawyer	Law	Slovenia	Female	39	4	Yes.
Engineer	Automotive	Slovenia	Male	33	3	Yes.
Researcher	Education	Slovenia	Female	29	2	No.
Coordinator	Consulting	Slovenia	Female	25	0,75	No.
Assistant Professor	Education	Slovenia	Male	30	1	No.
Expert adviser	Non-profit	Slovenia	Female	34	6	No.
Teaching assistant	Education	Croatia	Female	65	4	No.

Appendix B: The number of respondents and representatives per country (Chapter 4)

Country	The number of respondents per country	The number of country representatives per country
Austria	5	1
Bosnia and Herzegovina	18	2
Croatia	29	3
Denmark	4	1
Finland	2	1
France	3	1
Germany	3	2
Greece	2	1
Ireland	2	1
Italy	2	1
Kosovo	2	1
Lithuania	2	1
Macedonia	4	2
Netherlands	4	1
Norway	6	1
Portugal	2	1
Romania	2	1
Scotland	10	1
Serbia	5	2
Slovenia	15	2
Spain	14	1
Switzerland	2	1
Turkey	4	1
United Kingdom	4	1

Appendix C: Summary in Slovenian language/Daljši povzetek disertacije v slovenskem jeziku

Uvod

Zanos je osrednji konstrukt znotraj pozitivne psihologije (Seligman & Csikszentmihalyi, 2000) in je opredeljen kot stanje, v katerem je posameznik popolnoma zavzet in notranje motiviran za izvajanje zahtevne, a obvladljive aktivnosti (Csikszentmihalyi, 1997b; Kawabata et al., 2008). Raziskave kažejo, da posamezniki pogosteje doživijo zanos pri delu kot pa v prostem/nedelovnem času (Csikszentmihalyi & LeFevre, 1989; Delle Fave & Massimini, 1988; Eisenberger, Jones, Stinglhamber, Shanock, & Randall, 2005; González-Cutre, Sicilia, Moreno, & Fernández-Balboa, 2009; Rodríguez-Sánchez, Schaufeli, Salanova, Cifre, & Sonnenschein, 2011). Hkrati raziskave kažejo, da ima zanos številne pozitivne posledice, kot so višja samozavest, produktivnost (Wells, 1988), visoka stopnja zadovoljstva (Han, 1988), nenehno iskanje izzivov (Ceja & Navarro, 2011), pozitivna čustva (Eisenberger et al., 2005), raziskovalno vedenje (Ghani & Deshpande, 1994), dobro počutje in mnoge druge. Zaposleni, ki pri izvajanju svojih delovnih nalog pogosto doživijo zanos, občutijo njegove pozitivne posledice, kar hkrati vpliva tudi na organizacijo, saj se predanost delu in organizacijska spontanost povečata (Ceja & Navarro, 2011). Zanos spodbuja občutek uživanja pri delu, osredotočenosti na nalogo in notranjo motivacijo za izvajanje naloge ter posledično tudi ustvarjalnost (Sosik, Kahai, & Avolio, 1999).

Ravno zaradi številnih pozitivnih posledic zanos razumemo kot pozitiven pojav, vendar je že sam Csikszentmihalyi (1991) nakazal, da ima lahko zanos tudi negativne posledice. Posamezniki, ki doživijo visoko stopnjo zanosa, postanejo popolnoma vključeni v izvajanje aktivnosti in pozabijo na vse, kar se dogaja okoli njih (Bakker, 2005; Csikszentmihalyi & LeFevre, 1989). V stanju zanosa so posamezniki popolnoma osredotočeni zgolj na izvajanje aktivnosti, zato pri njenem izvajanju odmislijo vse nepomembne informacije, ki bi jih lahko pri tem ovirale (Csikszentmihalyi, 1991; Beard & Hoy, 2010; Jackson & Hanin, 2000). Posledično postane njihovo zavedanje omejeno.

Keller in Bless (2008, str. 198–199) pravita, da »zanos ni nujno povezan s pozitivnimi etičnimi ali socialnimi posledicami, saj lahko postanejo posamezniki od zanosa odvisni, npr. igre na srečo, videoigre; hkrati lahko posamezniki doživljajo zanos tudi takrat, ko izvajajo antisocialne aktivnosti, npr. kriminal, vojna«. Iz tega lahko sklepamo, da lahko zanos spodbuja tudi neetično vedenje do drugih, npr. sodelovanje v antisocialnih aktivnostih, in do samega sebe, npr. postati odvisen od dela in posledično zanemariti druge vidike življenja. Jones (1991) opredeli neetično vedenje kot vedenje, ki je bodisi nezakonito ali za širšo skupnost moralno nesprejemljivo. Med doživljanjem zanosa lahko posamezniki nenamerno pozabijo na etiko, če ta ni neposredno povezana s ciljem aktivnosti, ki jim omogoča doživljanje zanosa. Kot posledica zanosa se lahko pojavi tudi

etična slepota (angl. *ethical blindness*), ki je definirana kot začasna nezmožnost posameznika, da pri sprejemanju odločitev upošteva tudi etično dimenzijo (Palazzo, Krings, & Hoffrage, 2011).

Kljub temu da so nekateri avtorji (npr. Csikszentmihalyi, 1991; Keller & Bless, 2008) že omenjali negativne posledice zanosa, v literaturi še vedno ni mogoče zaslediti teoretičnih ali empiričnih ugotovitev, ki bi to potrdile. Zanos ima številne pozitivne posledice, zato mnogi avtorji iščejo dejavnike, s katerimi bi spodbudili doživljanje zanosa v organizacijah. Glede na to, da v literaturi vendarle najdemo domneve, da je lahko zanos pozitivno povezan tudi z neetičnim vedenjem, je treba teoretično in empirično preveriti pogoje, pod katerimi lahko zanos vodi v neetično vedenje. Pridobitev dodatnega znanja o negativnih posledicah zanosa nam omogoča, da preprečimo morebitne nenamerne negativne posledice zanosa. Glavni namen raziskovanja v doktorski disertaciji je zato preučevanje morebitnih negativnih posledic zanosa pri delu.

1 Zanos: bibliometrična analiza skupnega navajanja in sistematični pregled literature

Zanos je konstrukt, s katerim pojasnimo vedenje ljudi, ki imajo radi svoje delo (Quinn, 2005). Različni avtorji so zanos operacionalizirali, preizkušali in uporabljali na različne načine. Iz tega lahko sklepamo, da je zanos preširoko in slabo opredeljen. Zanos je zelo težko razumeti, saj ne obstaja usklajen pristop k modeliranju odnosov med dimenzijami. Isti konstrukt je lahko, glede na avtorjevo presojo, povzročitelj, predhodnik ali posledica zanosa. Hkrati pa je zanos multidisciplinarna tematika, ki je predmet preučevanja številnih avtorjev na področju učenja (npr. Massimini, Csikszentmihalyi, & Fave, 1988; Nakamura & Csikszentmihalyi, 2002; Shin, 2006), športa in fizičnih aktivnosti (npr. Jackson & Csikszentmihalyi, 1999), glasbe (npr. de Manzano, Theorell, Harmat, & Ullén, 2010), spleta (npr. Novak, Hoffman, & Yung, 2000) ter s področja dela in prostega časa (npr. Csikszentmihalyi & LeFevre, 1989; Fave & Massimini, 2003). Na področju dela je zelo malo empiričnih raziskav, ki bi bile narejene v delovnih okoljih, kljub temu da je delo glavni vir doživljanja zanosa pri odraslih (Csikszentmihalyi & LeFevre, 1989).

V prvem poglavju sem zato z uporabo kvantitativnega (bibliometrična analiza skupnega navajanja) in kvalitativnega pristopa (sistematični pregled) analizirala literaturo zanosa in tako dobila vpogled v predhodnike, značilnosti in posledice zanosa, ki so bile do sedaj preučevane znotraj različnih disciplin. Ugotovila sem, da je literatura zanosa razdrobljena ter na različnih področjih operacionalizirana, preizkušena in uporabljena na različne načine. Hkrati sem identificirala štiri prevladujoče discipline znotraj literature zanosa: psihologijo, športno psihologijo, trženje ter računalniško-človeško interakcijo.

S pomočjo sistematičnega pregleda literature, ki zagotavlja sistematičen in pregleden način zbiranja, sinteze in ocenjevanja ugotovitev študij o določeni temi, sem nato identificirala in

opisala tudi najpogosteje preučevane značilnosti zanosov in 39 individualnih ter okoljskih predhodnikov, med katerimi so bili štiri individualni predhodniki in štiri okoljski predhodniki uporabljeni in preverjeni tudi v delovnem okolju. Prav tako pa sem identificirala tudi 40 posledic zanosov, med katerimi jih je bilo šest uporabljenih in preverjenih v delovnem okolju.

S pomočjo sistematičnega pregleda literature sem hkrati identificirala ter opisala razmerja med zanosom in v literaturi najpogosteje omenjenimi podobnimi konstrukti (npr. notranja motivacija, zavzetost, vključenost ...). Na koncu prvega poglavja pa sem na podlagi preteklih ugotovitev o zanosu iz različnih disciplin oblikovala seznam predhodnikov, značilnosti in posledic zanosov, ki bi jih bilo smiselno preveriti tudi v delovnem okolju.

2 Razvoj skale za etično slepoto na delovnem mestu

Nedavni modeli etičnega odločanja so poudarili pomen in vpliv nezavednih procesov na (ne)etično vedenje. Etična slepota je opredeljena kot konstrukt, ki nam lahko pomaga razumeti nenamerno neetično vedenje, vendar danes še vedno zelo slabo poznamo in razumemo pojem etične slepote v delovnem okolju, saj so empirične raziskave o tem fenomenu zelo omejene. Tako je verjetno tudi zato, ker trenutno še nimamo razvite merske lestvice, s pomočjo katere bi lahko preučevali pojavnost etične slepote v organizacijah.

Da bi lahko empirično preučila razmerje med zanosom in nenamernim neetičnim ravnanjem, sem v drugem poglavju razvila mersko lestvico za etično slepoto. Pri razvoju le-te sem uporabila predlagane pristope za proces razvoja merskih lestvic. Na podlagi kvalitativnih podatkov, ki sem jih pridobila s pomočjo 17 intervjujev s posamezniki, ki so zaposleni v različnih panogah, ter na podlagi pregleda literature sem najprej opredelila nabor vprašanj, ki bi jih bilo smiselno vključiti v mersko lestvico. Najprej sem izvedla pilotno študijo in nato na treh različnih sklopih podatkov nadalje preverila predlagana vprašanja. Z uporabo raziskovalne faktorske analize (angl. *exploratory factor analysis* – EFA) ter potrditvene faktorske analize (angl. *confirmatory factor analysis* – CFA) sem ugotovila, da je etična slepota večdimenzionalni konstrukt, ter razvila mersko lestvico za etično slepoto na delovnem mestu, ki je sestavljena iz 13 trditvev, ki merijo naslednje dimenzije etične slepote: racionalizacijo (pet trditvev), rutino (štiri trditve) in nevednost (štiri trditve).

3 Predhodniki in posledice zanosov pri delu: preučevanje povezave med jasnimi in specifičnimi cilji, zanosom, časovnim pritiskom in etično slepoto

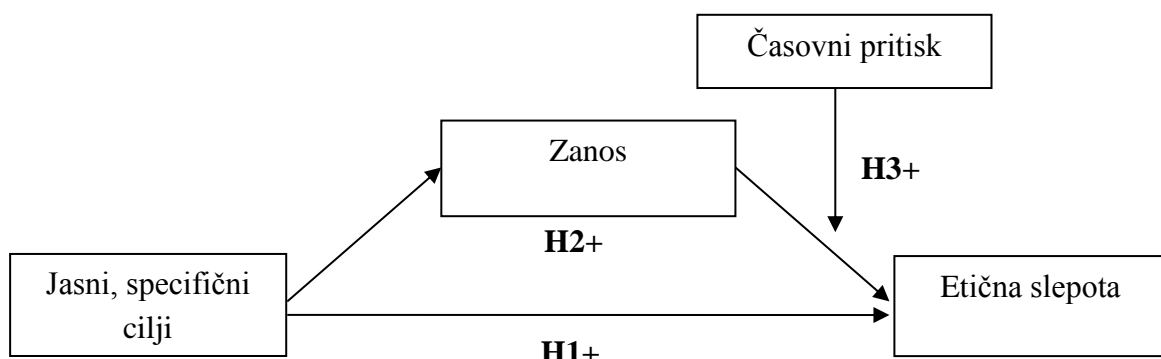
Jasni in specifično opredeljeni cilji spodbujajo zanos, saj zaposlenim omogočajo izvajanje aktivnosti, ki imajo točno določen cilj in zahtevajo konkretne odgovore (Csikszentmihalyi, 1997b). Specifični in zahtevni cilji vplivajo na delovno uspešnost zaposlenih tako, da jih

spodbudijo k popolnemu osredotočanju na specifično določene cilje in jih tako spodbudijo, da si prizadevajo za uresničitev naloge (Barsky, 2008, str. 69). Hkrati imajo lahko specifični cilji tudi neželene posledice (Locke & Latham, 1990). Možna neželena posledica specifičnih ciljev je neetično vedenje. Schweitzer, Ordóñez in Douma (2004) so ugotovili močno povezavo med specifičnimi, zahtevnimi cilji in neetičnim vedenjem, vendar v trenutni literaturi še ni odgovora na vprašanje, zakaj ali skozi kateri mehanizem specifični cilji vplivajo na (ne)etično vedenje (Barsky, 2008).

Na podlagi dosedanje literature lahko sklepamo, da je zanos možen odgovor na to vprašanje, saj specifični cilji spodbujajo zanos pri delu (Salanova, Bakker, & Llorens, 2006). V zanosu izvaja posameznik aktivnost spontano, lahko in skoraj avtomatično ter ima jasno predstavo o tem, kaj mora narediti (Csikszentmihalyi, 1991; Jackson & Hanin, 2000; Fullagar & Mills, 2008). V zanosu zaposleni odmislijo vse nepomembne informacije, ki bi jih pri tem lahko ovirale (Csikszentmihalyi, 1991; Beard & Hoy, 2010; Jackson & Hanin, 2000), kar povzroči omejeno zavedanje. Posledično lahko v zanosu zaradi omejenega zavedanja nenamerno pozabimo na etično dimenzijo, če slednja ni neposredno povezana s ciljem aktivnosti, ki nam omogoča doživljanje zanosu. Tako lahko posamezniki postanejo etično slepi in se vedejo neetično, ne da bi se tega sploh zavedali. Cilj disertacije je bil empirično preveriti, ali ima lahko zanos, ki so ga spodbudili specifični cilji, negativne posledice na etično vedenje posameznikov.

Osnovno povezavo sem nagradila in preučila, kako časovni pritisk (angl. *time pressure*), ki je v današnjem delovnem okolju zelo pogosto prisoten, vpliva na odnos med zanosom in etično slepoto. Časovni pritisk opredelimo kot subjektivno zaznana časovno stisko oziroma postavljanje rokov (Amabile et al., 2002). Ko se posamezniki soočajo s časovnim pritiskom, je verjetneje, da bodo zastavljeni cilj dosegli z uporabo bližnjic (Payne, Bettman, & Johnson, 1988). V stanju zanosu posamezniki spremenjeno doživljajo čas, vendar jim je v vsakem trenutku jasno, kaj je cilj aktivnosti (Csikszentmihalyi, 1997b). Pod časovnim pritiskom lahko posamezniki pozabijo na svoje etične dolžnosti, saj hitijo, da bi lahko dosegli zastavljene cilje (Darley & Batson, 1973; Moberg, 2000).

Slika 1: Povezave med jasnimi, specifičnimi cilji, zanosom, časovnim pritiskom in etično slepoto (prikaz postavljenih hipotez)



Cilj tretjega poglavja je bil tako preučiti predhodnike (jasni in specifični cilji) in negativne posledice zanosov pri delu (etična slepota). Kot je razvidno iz Slike 1, sem v tretjem poglavju najprej predpostavila, da bodo zaposleni, ki imajo jasne in specifične cilje, verjetneje doživeli zanos. Poleg tega sem predpostavila, da zanos, spodbujen z jasnimi in specifičnimi cilji, spodbuja etično slepoto. Natančneje, v tem poglavju sem preučevala zanos v vlogi mediatorja v razmerju med jasnimi cilji in etično slepoto. Poleg tega sem predpostavila moderacijski vpliv časovnega pritiska na razmerje med jasnimi cilji in etično slepoto, ki je medirano z zanosom.

Postavljene hipoteze sem preverila s pomočjo podatkov, zbranih pri 151 zaposlenih. Rezultati raziskave so pokazali, da jasni cilji negativno vplivajo na etično slepoto. Torej, zaposleni, ki imajo jasne in specifične cilje, bodo manj verjetno etično slepi oziroma se bodo manj verjetno nenamerno vedli neetično. Poleg tega sem ugotovila, da zanos medira odnos med jasnimi cilji in etično slepoto ter da ima časovni pritisk moderacijski vpliv na posredno razmerje med jasnostjo ciljev, medirano z zanosom. Predvidevala sem pozitivno povezavo med jasnimi cilji, zanosom, časovnim pritiskom in etično slepoto, vendar so rezultati pokazali, da je povezava med njimi negativna. Nasprotno od pričakovanega sem tako identificirala dve novi pozitivni posledici zanosov: zanos zmanjšuje nenamerno neetično vedenje in blaži negativne učinke časovnega pritiska.

4 Posledice zanosov: vloga zanosov, samoiniciativnega preoblikovanja dela, in prihodnjih časovnih perspektiv na deloholizem

Zelo dinamičen in hektičen način življenja, zahtevno poslovno okolje, dinamične spremembe delovnih vzorcev, hiter tehnološki razvoj in negotovost glede zaposlitve so dejavniki, ki silijo zaposlene, da večji del svojega časa in energije namenijo delu (Tabassum & Rahman, 2012; Harpaz & Snir, 2003). Temu pojavu lahko pravimo deloholizem (angl. *workaholism*). Deloholizem je opredeljen kot prisilna ali nenadzorovana potreba po nenehnem delu (Oates, 1971). Deloholiki posvetijo pretirane količine časa, energije in truda svojemu delu in s tem zanemarjajo druge vidike svojega življenja, ki z delom niso povezani (Tabassum & Rahman, 2012; Mudrack & Naughton, 2001). Nekateri avtorji menijo, da je deloholizem pozitiven pojav, drugi pa, da je negativen. Cantarow (1979) na primer meni, da se deloholizem razvije iz veselja do dela. Po drugi strani pa nekateri avtorji opisujejo deloholizem kot vrsto zasvojenosti (Oates, 1971; Killinger, 1992; Robinson, 1997; Porter, 1996). Kljub temu da je deloholizem zelo pomemben tako za zaposlene kot tudi za delodajalce, je zelo malo empiričnih raziskav, ki bi poglobile razumevanje tega pojava (Tabassum & Rahman, 2012; Harpaz & Snir, 2003).

S teorijo zanosov lahko poglobimo razumevanje razlogov, zakaj posamezniki postanejo deloholiki. Pod določenimi pogoji zanos vodi v zasvojenost, saj povzroči zelo prijetne občutke, zaradi katerih je posameznik pripravljen storiti skoraj vse, da jih ponovno doživi

(Csikszentmihalyi, 1991). Posamezniki, ki pri svojem delu pogosto doživijo zanos, lahko postanejo odvisni od dela, kar lahko vodi v deloholizem. V zanosu postanejo posamezniki v celoti vključeni v delovne aktivnosti. Zasvojljiva narava zanosa lahko prisili posameznika, da dela več, da preseže svoje meje, žrtvuje svoj čas in ignorira stvari, ki niso neposredno povezane z doživljanjem zanosa pri delu. Zaradi zanosa lahko posameznik svojo zavest osredotoči samo na dejavnosti, ki so povezane z delom. Vse ostale dejavnosti jemlje kot moteče in jih izključi iz svoje zavesti. Tako se lahko posameznik osredotoči samo na svoje delovne aktivnosti in posledično zanemari druge sfere svojega življenja.

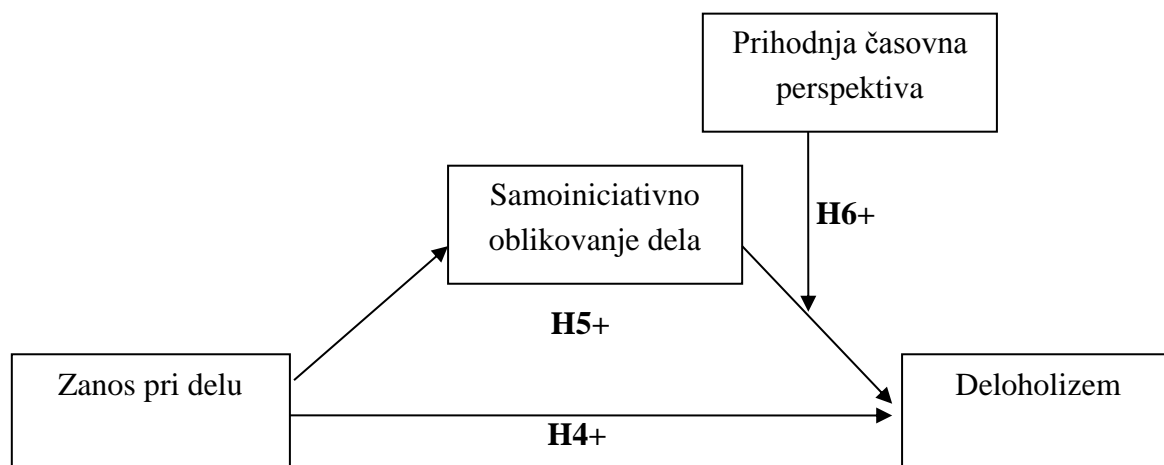
Osnovno povezavo sem nadgradila s preučevanjem vpliva samoiniciativnega oblikovanja dela (angl. *job crafting*) na razmerje med zanosom in deloholizmom. Wrzesniewski in Dutton (2001) opredelita samooblikovanje dela kot fizično in kognitivno spremembo, ki jo posameznik naredi in je povezana z delom. Samooblikovanje dela lahko opredelimo kot proaktivno delovanje, ki je sestavljeno iz treh različnih vrst vedenja: povečanja virov za delo (angl. *increasing job resources*), povečanja izzivov pri delu (angl. *increasing job challenges*) in zmanjšanja delovnih zahtev (angl. *decreasing job demands*) (Petrou, Demerouti, Peeters, Schaufeli, & Hetland, 2012, Tims & Bakker, 2010). Če želi posameznik kontinuirano doživljati zanos, mora nenehno iskati vedno višje izzive in razvijati svoje sposobnosti, ki mu omogočajo doseganje visokih izzivov.

Poleg tega sem preučevala tudi dejavnike na strani posameznika, ki bi lahko vplivali na odnos med samooblikovanjem dela in deloholizmom. Časovna perspektiva (angl. *time perspective*), opredeljena kot pomemben osebni dejavnik, ki vpliva na to, kako živimo naše življenje (Zimbardo & Boyd, 1999), lahko vpliva na omenjeni odnos. Časovna perspektiva je opredeljena kot nezavedni proces, pri katerem so osebne in socialne izkušnje razporejene v časovno kategorijo ali okvir ter pomagajo urediti in uskladiti pomen teh dogodkov (Zimbardo & Boyd, 1999). Zimbardo in Boyd (1999) opredelita pet časovnih perspektiv/dimenzij: pretekla pozitivna (angl. *Past-Positive*), pretekla negativna (angl. *Past-Negative*), sedanja hedonistična (angl. *Present-Hedonistic*), sedanja fatalistična (angl. *Present-Fatalistic*) in prihodnja (angl. *Future*) časovna dimenzija.

V svoji doktorski disertaciji sem se osredotočila samo na prihodnjo časovno dimenzijo, saj predvidevam, da je ta dimenzija pomembno povezana z deloholizmom. Prihodnja dimenzija odraža načrtovanje in doseganje prihodnjih ciljev (Zimbardo & Boyd, 1999). Usmeritev v prihodnost je pozitivno povezana z vestnostjo ter upoštevanjem prihodnjih posledic (Zimbardo & Boyd, 1999). Posamezniki, ki so usmerjeni v prihodnost, danes opravljajo dejavnosti zato, da bi s tem pozitivno vplivali na prihodnje posledice in dosegli zadane prihodnje cilje. V prihodnost usmerjeni posamezniki bodo namreč verjetneje žrtvovali svoj današnji čas in ga popolnoma posvetili delu (iskali nove vire in izzive), zato da bodo dosegli svoje dolgoročne cilje.

Kot je razvidno iz Slike 2, sem v četrtem poglavju predvidevala, da bodo zaposleni, ki pogosto doživljajo zanos pri delu, verjetneje postali deloholiki. V nadaljevanju sem preučevala samoiniciativno preoblikovanje dela (angl. *job crafting*) kot mediator in prihodnjo časovno perspektivo kot moderator, ki spodbuja deloholizem.

Slika 2: Povezave med zanosom, samoiniciativno oblikovanje dela, časovno perspektivo in deloholizmom (prikaz postavljenih hipotez)



Postavljene hipoteze sem preverila z uporabo podatkov, ki sem jih zbrala od 146 profesorjev, učiteljev in raziskovalcev iz 24 evropskih držav. Ugotovila sem, da je zanos pri delu pozitivno povezan z deloholizmom. Zaposleni, ki pogosto doživljajo zanos pri delu, lahko prostovoljno posvečajo več časa in energije dejavnostim, ki so povezane z delom, in posledično zanemarijo druge pomembne (družinske in socialne) dejavnosti. Rezultati so tako potrdili, da ima lahko zanos tudi negativno posledico (tj. deloholizem). Poleg tega sem ugotovila, da samoiniciativno preoblikovanje dela medira razmerje med zanosom in deloholizmom ter da prihodnja časovna perspektiva moderira indirektno razmerje med zanosom in deloholizmom, ki je mediirano s samoiniciativnim oblikovanjem dela.

4.1 Obrnjeno U-razmerje med zanosom in zadovoljstvom z ravnovesjem med družino in delom

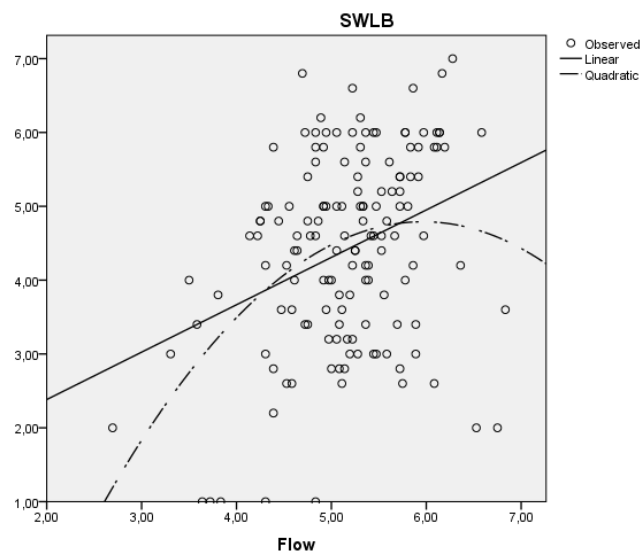
V literaturi lahko najdemo poziv k sistematičnemu preučevanju stroškov pozitivnih izkušenj (Grant & Schwartz, 2011; Pierce & Aguinis, 2013). V četrtem poglavju sem predpostavila, da sta zanos in zadovoljstvo z ravnovesjem med delom in družino (angl. *satisfaction with work life balance – SWLB*) primerna kandidata za preučevanje obrnjenega U-razmerja. SWLB je opredeljeno kot splošna stopnja zadovoljstva, ki izhaja iz ocene o lastni uspešnosti pri izpolnjevanju delovnih in družinskih zahtev (Valcour, 2007, p. 1512). Da bi dosegli zadovoljivo izkušnjo na vseh življenjskih področjih, moramo

posamezniki pravilno razporediti omejene osebne vire, kot so energija, čas, in zavezanost, med vse pomembne domene (npr. domena dela, družine ...) (Kirchmeyer, 2000).

Valcour (2007) je ugotovil, da imajo delovne ure negativen vpliv na SWLB, zahtevnost delovnega mesta in občutek nadzora pri delu pa pozitivno vplivata na SWLB. Da bi doživeli zanos pri delu, morajo posamezniki opravljati zahtevno, kompleksno delo in ravno zaradi zanosa bodo posamezniki imeli občutek nadzora nad izvedbo tega zahtevnega dela. Iz tega bi lahko torej sklepali, da ima lahko zanos pozitiven vpliv na SWLB.

Vendar pa lahko posamezniki, ki pogosto doživljajo zanos pri delu, postanejo popolnoma osredotočeni na aktivnosti, ki so povezane z delom. Posledično bodo ti posamezniki več časa in energije namenjali izvedbi delovnih aktivnosti in tako zanemarjali socialne, družinske in druge aktivnosti. Iz tega lahko sklepamo, da lahko zanos pri delu tudi zmanjšuje SWLB. Kot je razvidno iz Slike 3, sem v četrtem poglavju potrdila predpostavljeno obrnjeno U-razmerje med zanosom in zadovoljstvom z ravnovesjem med delom in družino. Rezultati raziskave so tako pokazali negativen vpliv visoke stopnje zanosa pri delu na SWLB.

Slika 3: Obrnjeno U-razmerje med zanosom (Flow) in zadovoljstvom z ravnovesjem med delom in družino (SWLB)



Skupna diskusija teoretičnih prispevkov

Doktorska disertacija predstavlja korak naprej k boljšemu razumevanju zanosa pri delu in tako prispeva k teoriji zanosa. Na podlagi pregleda literature sem ugotovila, da na področju zanosa do sedaj še nihče ni naredil sistematičnega pregleda preteklih ugotovitev z različnih področij oziroma disciplin. Bibliometrične metode, pregledi literature in meta-analize so na področju zanosa zelo redke in ozko usmerjene na specifične vidike zanosa (npr. Boyle, Connolly, Hainey, & Boyle, 2012; D'Mello, 2013; Dietrich, 2004; Finneran & Zhang,

2003). Prvi teoretični prispevek doktorske naloge je tako v temeljitem pregledu obstoječe literature o zanosu, povzetku preteklih ugotovitev o teoriji zanosu znotraj različnih disciplin ter apliciranje ugotovitev na zanos pri delu. Poznavanje in razumevanje zanosu pri delu je še vedno omejeno (Demerouti, 2006; Eisenberger et al., 2005; Fullagar & Kelloway, 2009; Llorens et al., 2013). Z aplikacijo ugotovitev o zanosu iz različnih disciplin na zanos pri delu doktorska disertacija tako prispeva tudi k razumevanju specifičnega področja teorije zanosu, in sicer zanosu pri delu.

Eden najpomembnejših prispevkov mojega dela pa je teoretično in empirično preučevanje novih mehanizmov, ki nam lahko pomagajo pojasniti povezave med zanosom in njegovimi morebitnimi negativnimi posledicami (poglavje 3 in 4). V tretjem poglavju sem preučevala razmerje med jasnimi, specifičnimi cilji, zanosom, časovnim pritiskom in etično slepoto. S tem sem teoriji zanosu prispevala na dva načina: (i) predpostavila in potrdila, da so jasni, specifični cilji okoljski dejavnik, ki spodbuja zanos pri delu, in (ii) predstavila teoretično konceptualizacijo in empirično preverbo razmerja med zanosom in etično slepoto. Kolikor mi je znano, je študija, predstavljena v doktorski disertaciji, prva študija, ki je empirično preverila posledice zanosu na etično vedenje. Keller in Bless (2008) pravita, da zanos ni nujno povezan s pozitivnimi etičnimi ali socialnimi posledicami. V doktorski disertaciji sem zato predpostavila, da zanos povečuje etično slepoto oziroma nenamerno neetično vedenje v organizaciji. Nasprotno od pričakovanega sem ugotovila, da zanos preprečuje etično slepoto. Poleg tega sem v tretjem poglavju pridobila empirične dokaze, ki kažejo, da lahko visoka stopnja zanosu omili negativne posledice časovnega pritiska na neetično vedenje. Hkrati sem z doktorsko disertacijo prispevala k teoriji zanosu, ko sem empirično preverila dve pozitivni posledici zanosu, ki do sedaj še nista bili preučevani. Ugotovila sem, da zanos zmanjšuje nenamerno neetično vedenje in omili negativne posledice časovnega pritiska na neetično vedenje.

Nato sem v četrtem poglavju preučevala razmerje med zanosom in deloholizmom, ki ravno tako predstavlja potencialno negativno posledico zanosu. S tem prispevam k teoriji zanosu, saj sem empirično preverila in potrdila, da visoka stopnja zanosu pri delu lahko vodi v zasvojenost, saj želijo zaposleni nenehno doživljati zanos in posledično nenehno izvajajo in ponavljajo delovne aktivnosti, kar lahko vodi v deloholizem. K teoriji zanosu prispevam tudi z zagotavljanjem dokazov obrnjenega U-razmerja med zanosom pri delu in zadovoljstvom z ravnovesjem med delom in družino. S tem namreč prikažem, da zanos pri delu ni absolutno pozitiven konstrukt ter da tudi pri zanosu najdemo učinek »preveč dobrih stvari« (angl. *too-much-of-a-good-thing effect*). Hkrati pa teoriji zanosu prispevam tudi z empirično preverbo in potrditvijo, da zanos spodbuja samoiniciativno oblikovanje dela.

Doktorska disertacija prispeva tudi k razumevanju etične slepote. Kljub temu da je bila etična slepota opredeljena kot konstrukt, ki nam lahko pomaga razumeti neetično vedenje, zelo malo vemo o prisotnosti etične slepote v organizacijah, dejavnikih

spodbujanja/preprečevanja etične slepote ter o njenih posledicah za organizacijo. Tako je tudi zaradi pomanjkanja merske lestvice, s katero bi lahko ocenjevali etično slepoto v organizacijah. V drugem poglavju doktorske disertacije zato preverim, kako se etična slepota manifestira v delovnem okolju in hkrati empirično preverim mersko lestvico za etično slepoto v delovnem okolju. Rezultati raziskave so pokazali, da je etična slepota večdimenzionalni konstrukt, ki ga lahko merimo s 13 vprašanji, ki izražajo sledeče dimenzije: racionalizacijo (pet trditvev), rutino (štiri trditve) in nevednost (štiri trditve). Z razvojem in testiranjem merske lestvice za etično slepoto na delovnem mestu in s preučevanjem mehanizmov, ki vplivajo na pojavnost etične slepote v organizaciji, prispevam k teoriji etične slepote. Natančneje, empirično dokažem, da zanos pri delu zmanjšuje etično slepoto ter da, pod določenimi pogoji, časovni pritisk le-to povečuje. Kolikor mi je znano, je študija, predstavljena v doktorski disertaciji, prva, ki empirično preverja etično slepoto v delovnem okolju.

Poleg tega pa doktorska disertacija predstavi pomemben vpogled v pogoje, pod katerimi se pojavi deloholizem in tako prispeva k teoriji deloholizma. V doktorski disertaciji odgovorim na poziv k preučevanju razmerja med uživanjem in deloholizmom (McMillan, Brady, O'Driscoll, in Marsh, 2002) in prispevam k teoriji deloholizma, ko preučim pogoje, pod katerimi uživanje pri delu vpliva na deloholizem. Predstavim torej novo vedenje v delovnem okolju (samoiniciativno oblikovanje dela) in prikažem, da imajo zaposleni, ki so pri delu pogosto v zanosu, več priložnosti za samoiniciativno oblikovanje dela in lahko zato verjetneje postanejo deloholiki. Hkrati v doktorski disertaciji ugotovim, da to še bolj velja za zaposlene, ki so usmerjeni v prihodnost (tj. imajo močnejše izraženo prihodnjo časovno perspektivo). Če upoštevam vse skupaj, k teoriji deloholizma prispevam tako, da z uporabo teorije zanosu, samoiniciativnega oblikovanja dela, časovnih perspektiv preučim vzročne mehanizme in okoliščine, ki vodijo v deloholizem.

Doktorska disertacije prispeva tudi k teoriji samoiniciativnega oblikovanja dela, saj ponuja odgovor na vprašanje o morebitnih negativnih vidikih samoiniciativnega oblikovanja dela (Grant & Ashford, 2008). Namreč, v doktorski disertaciji predstavim empirične dokaze, da lahko samoiniciativno oblikovanje dela vodi v deloholizem. Poleg tega ugotovim, da je negativni vpliv samoiniciativnega oblikovanja dela izrazitejši pri tistih zaposlenih, ki so usmerjeni v prihodnost. Hkrati disertacija k teoriji samoiniciativnega oblikovanja dela prispeva tudi s tem, ko predstavi in empirično prikaže, da je nenehno doživljanje zanosu dejavnik, ki spodbuja samoiniciativno oblikovanje dela.