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The relationship between leisure activities and psychological resources that support a sustainable career: The role of leisure seriousness and work-leisure similarity

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ABSTRACT

While leisure plays an increasingly important role in individuals' lives, little is known about its potential to influence career sustainability. Drawing on Conservation of Resources (COR) theory, we investigate whether investing extra time into leisure will have a positive or negative impact on career sustainability by either generating or depleting resources. Specifically, we examine the effects of time spent on leisure on the career-related resources of resilience and self-efficacy using data on within-person changes over the course of 7 monthly surveys. We propose that the effects of leisure on resources depend on the interplay between a) the approach individuals take to their leisure activity, in particular the level of "seriousness" of a leisure activity (i.e., the extent to which individuals identify with, and persevere in, their activity), and b) the similarity between work and leisure (i.e., the extent to which work and leisure involve similar demands and skills). We found that time spent on leisure over and above an individual's average was positively related to work-related self-efficacy, but only when the individual's leisure activities were high in seriousness and low in work-leisure similarity, or when they were low in seriousness and high in similarity. Investing time in leisure was negatively associated with self-efficacy when leisure activities were high in seriousness and similar to an individual's work. Our findings paint a complex picture of the potential influence of leisure on career sustainability and highlight the need to take a nuanced approach when studying the effects of leisure.

1. Introduction

A sustainable career is one in which "employees remain healthy, productive, happy and employable throughout its course and that fits into their broader life context" (De Hauw & Greenhaus, 2015, p.224). However, achieving employability throughout the span of a career in a way that also fits with and individual's broader life context is a challenging task, which involves managing complex interactions between work and non-work domains. While the interactions between individuals' family life and the work domain are increasingly well understood (Greenhaus & Allen, 2011) relatively little is known about the role that leisure plays, despite it being an important part of the "broader life context" of the working-aged population. There are multiple ways in which leisure may play a role within a sustainable career including, for example, the direct promotion of health (Han & Patterson, 2007) and life satisfaction (Kuykendall, Tay, & Ng, 2015). In this paper we focus on one specific mechanism which may connect leisure with the performance

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indicators of a sustainable career (De Vos, Van der Heijden, & Akkermans, 2018), and test a model linking leisure activities to resources required for individuals to proactively manage their career over time.

Individuals' agency plays a critical role in managing sustainable careers (De Vos et al., 2018). In order to align their career with their needs and preferences, and with a dynamic labor market, individuals need to prepare for and anticipate change (Kossek, Roberts, Fisher, & Demarr, 1998), and show initiative in pursuing their career goals (Van Dam, Bipp, & Van Ruysseveldt, 2015). Doing so requires a range of personal resources: Individuals need to be resilient in order to adjust to changes (De Vos, Dujardin, Gielens, & Meyers, 2017; De Vos & Van der Heijden, 2017), and they need to have the resources to be proactive in order to bring about change themselves (Fugate, Kinicki, & Ashforth, 2004; Valcour, 2015).

Drawing on Conservation of Resources (COR) theory (Hobfoll, 1989), De Vos et al. (2018) argue that for careers to be sustainable, the resources required to manage them need to be preserved and generated over the course of an individual's career span. In the context of COR, resources are defined as “objects, personal characteristics, conditions, or energies that are valued by the individual” (Hobfoll, 1989, p. 516). COR proposes that the loss of resources is psychologically harmful to individuals, and that they will be motivated to prevent it, and to recover resources that were lost. While resource loss has a more significant impact than resource gain, individuals are also motivated to acquire new resources and accumulate resources that equip them for future challenges (Halbesleben, Neveu, Paustian-Underdahl, & Westman, 2014; Strauss & Parker, 2018). De Vos et al. (2018) propose that individuals who are proactive in conserving and acquiring the resources that can help them attain their career goals are more likely to achieve career sustainability. In this paper we apply this COR approach to sustainable careers, and investigate how resources critical for careers can be acquired in the domain of leisure.

Careers are embedded in individuals' broader life contexts (Van der Heijden & De Vos, 2015), and factors outside of work will influence careers (Greenhaus & Kossek, 2014). The integration between career and personal and family life constitutes a defining feature of a sustainable career (De Vos & Van der Heijden, 2017). To date, research on the effects of non-work domains on career outcomes has focused primarily on family-work interactions (De Hauw & Greenhaus, 2015). However, as younger generations wait until later in life to become parents and spend longer periods outside of long-term romantic partnerships (Beaujouan & Ní Bhrolcháin, 2011), leisure (rather than family) is an aspect of personal life that is likely to play a central role in individuals' lives and have an increasing influence on their careers. Thus leisure presents an interesting domain for the examination of sustainable career at the intersection of work and the “broader life context” (De Hauw & Greenhaus, 2015, p. 224). Leisure might act as a source of opportunities for renewal that Newman (2011) argues is a key feature of a sustainable career. Yet, the effects of leisure on the resources that contribute to career sustainability have received little attention to date.

We investigate whether investing time into leisure will have a positive or negative impact on career sustainability by either generating or depleting resources. Specifically, we examine whether the effects of leisure on resources depend on the interplay between a) the relationship individuals have with their leisure activity, in particular the level of “seriousness” of a leisure activity (i.e., the extent to which individuals identify with, and persevere in, their activity; Stebbins, 2007), and b) the similarity between work and leisure (i.e., the extent to which work and leisure involve similar demands and skills).

We focus specifically on the resources of resilience and self-efficacy. These resources are key for individuals seeking to create and maintain sustainable careers (Lent & Brown, 2013; Mishra & McDonald, 2017), and according to enrichment theory they are resources which are particularly likely to be generated in the non-work domain and promote performance in the work domain (Greenhaus & Powell, 2006). Additionally, unlike other resources, such as specific skills or knowledge, that depend heavily on the activity in question, resilience and self-efficacy are resources likely to be generated and developed through a wide range of leisure activities. They can also be deployed across time and different activities, which makes them highly applicable to careers.

We examine these effects using data that capture within-person variation in the time spent in a leisure activity recorded over the course of 7 monthly surveys and how it relates to the career-related resources of resilience and self-efficacy. De Vos et al. (2018) suggest that we can better understand career sustainability, or lack thereof, through considering the interplay between the person and their context, over time. In this study we track individuals over 7 months in order to understand how personal decisions around time spent within the non-work context, specifically their leisure activities, may influence the sustainability of their career. By examining how different forms of leisure activity, across this timespan, influence resilience and self-efficacy we can test the utility of considering the person, the context and time as three foundational elements of a sustainable career. Our moderators in particular, test the proposition that individuals need to consider how their “private life context” (De Vos et al., 2018, p. 8), in this case the seriousness of their leisure and its similarity to their job role, can either result in long term facilitation between leisure and work, or to an unsustainable career trajectory through incompatible resource demands (De Vos et al., 2018).

2. Theory and hypotheses

2.1. Leisure and resources: a COR perspective

COR theory proposes that individuals are strategic in investing resources in order to protect their current resources and accumulate resources for the future (Hobfoll, 2002). From the perspective of career sustainability, individuals who invest time into the acquisition of resources “will be better able to protect the sustainability of their career, for example through safeguarding higher levels of well-being (i.e., happy and healthy) and performance (i.e., productivity)” (De Vos et al., 2018). Drawing on self-determination theory (Ryan & Deci, 2000), De Vos et al. further argue that an autonomy-supportive environment is critical in enabling individuals to build resources for a sustainable career. This suggests that leisure is an important domain for resource generation because individuals are typically able to freely decide whether or not to invest time in a leisure activity, affording them a high degree

of autonomy and choice which is conducive to building resources. Support for the resource-generating role of leisure for career sustainability also comes from the enrichment model, which proposes that non-work experiences, such as leisure, have the potential to generate resources that boost performance and well-being in other domains (Greenhaus & Powell, 2006).

Importantly, we focus on the relationship between spending more time than usual within a leisure activity and the work-related psychological resources of resilience and self-efficacy. The within-person design allows us to determine intra-individual relationships and therefore how deviations from a person's average level of time spent in their leisure activity will influence their levels of resilience and self-efficacy. Focusing on within-person variance in this way is particularly useful because the average time spent in leisure is likely to vary substantially between individuals for a range of reasons. For example, some activities may on average take longer than others (such as hiking versus indoor climbing), and individuals may differ in how much time they can spend on a leisure activity because of family- or work commitments (Mattingly & Bianchi, 2003). By separating out between-person effects and focusing on within-person differences we can interpret the findings as answering the question "what happens when an individual spends longer than they normally would in their given activity?". This allows us to draw conclusions about the effects of leisure while considering a range of different leisure activities and individual circumstances.

The psychological resources of resilience and self-efficacy are important for career sustainability because they facilitate individuals' proactive engagement in shaping their career (Akkermans & Tims, 2017) and allow them to protect their well-being and productivity (De Vos et al., 2018). First, contemporary careers require individuals to be resilient in order to adjust to changes (De Vos et al., 2017; De Vos & Van der Heijden, 2017) and increased work intensification (McDonald & Hite, 2018). Resilience reflects individuals' "developable capacity to rebound or bounce back from adversity, conflict, and failure or even positive events, progress, and increased responsibility" (Luthans, 2002, p. 702). Across different research areas, resilience is seen as an important resource in situations characterized by change (Shin, Taylor, & Seo, 2012; Taylor, Kemeny, Reed, Bower, & Gruenewald, 2000).

Second, in an era when careers require individual agility and proactivity to deal with the unexpected (Seibert, Kraimer, & Heslin, 2016), individuals' belief in their ability to perform effectively within their work and career environment is likely to be crucial in enabling the agency required to maintain a career in a sustainable way. Self-efficacy reflects "the strength of people's convictions in their own effectiveness" (Bandura, 1977, p. 193). Unsurprisingly, then, a large body of research has positioned self-efficacy as a key construct in work behavior in general (Sadri & Robertson, 1993) and in many specific aspects of career management (Lent & Brown, 2013). These include career decision-making (Gianakos, 1999), career satisfaction and success (Abele & Spurk, 2009), career adaptability (Jiang, Hu, & Wang, 2018; Johnston, 2018), and employability (Berntson, Näswall, & Sverke, 2008).

Furthermore, participation in competency development, which likely enhances self-efficacy, has been found to be associated with career satisfaction and success through its impact on employability (De Vos, De Hauw, & Van der Heijden, 2011). Research on enrichment has also highlighted resilience and self-efficacy as key resources that can be transferred between different life domains, such as between non-work and work roles (Greenhaus & Powell, 2006).

Career-related self-efficacy can encompass a number of forms of self-efficacy (Betz, 2007). These tend to focus on the process of careers (such as efficacy related to exploration and decision making; Lent, Ezeofor, Morrison, Penn, & Ireland, 2016) or on the content of careers (such as mathematical self-efficacy or occupational self-efficacy; Lopez, Lent, Brown, & Gore, 1997; Rigotti, Schyns, & Mohr, 2008). As managing career sustainability is a broad lifespan activity, going beyond initial career choice, it is likely to reflect an individual's ability to maintain their current employment situation. We therefore focused on work-related self-efficacy, a type of self-efficacy which reflects the current content of an individual's career. Additionally, due to the domain specificity of self-efficacy (Bandura, 2011), work-related self-efficacy is likely to be more relevant to career sustainability than generalized self-efficacy. However, the antecedents of work-related self-efficacy are not limited to the work domain. Even though previous research has demonstrated that work-related self-efficacy results, at least in part, from resources within the job (e.g. Eden et al., 2000), a substantial proportion of its variance is not explained by work-related antecedents. In support of this idea, previous research has found positive relationships between work-related self-efficacy and non-work experiences – such as romantic relationships and parenthood (Neff, Niessen, Sonnentag, & Unger, 2013; Ruderman, Ohlott, Panzer, & King, 2002). Specific leisure activities such as choral singing have also been found to be associated with increased feelings of confidence (von Lob, Camic, & Clift, 2010), indicating that leisure can promote self-efficacy. Neff et al. (2013, p. 804) suggest that "other factors in people's lives may contribute to the prediction of job-related self-efficacy". We therefore propose that leisure can provide a useful setting for the development of work-related self-efficacy. We more specifically propose that spending additional time within these activities will promote increases in self efficacy. Past studies have shown that changes in the average time spent in non-work activities has substantive implications for work related behaviors and outcomes (e.g. Mojza, Sonnentag, & Bornemann, 2011) and by examining time spent we allow for comparisons across different types of leisure activity.

Like self-efficacy, resilience is also domain-related. Individuals may bounce back from negative experiences in one domain but continue to experience impaired functioning in other domains (Rutter, 1993). Yet resilience in one domain can potentially be transferred into other domains by promoting a more positive self-appraisal (Rutter, 1993). This suggests that experiences within leisure that are challenging can facilitate higher levels of work-related resilience. In support of this argument, studies have shown that when individuals spend more time than usual on exercise during their leisure time, this is associated with personal resources such as resilience (Nägel & Sonnentag, 2013). As Kossek & Perrigino (2016, p. 764) argue in a recent review, "a holistic view of resilience […] must incorporate the work–non-work interface". In sum, we propose:

Hypothesis 1. Additional time spent in a leisure activity will be positively related to self-efficacy (H1a) and work-related resilience (H1b).

2.2. The moderating role of the interplay between leisure "seriousness" and work-leisure similarity

In Hypothesis 1 we propose a positive relationship between the additional time an individual spends in a leisure activity, and both their self-efficacy and resilience. However, the relationship between leisure and career-related resources is likely to be complex. On one hand, as we argued above, leisure has the potential to generate resources. On the other hand, COR theory suggests that like many other resource investments, in certain circumstances leisure has the potential to be resource depleting as well as resource generating (Ng & Feldman, 2012), and therefore represent a threat to career sustainability. For example, being highly committed to a specific leisure activity may be detrimental to commitment towards work (McQuarrie, 1999). This reduced commitment to work would in turn make work a less appealing domain for resource investment (Halbesleben et al., 2014), which could result in lower levels of resources and over time create a loss spiral (Örtqvist & Wincent, 2010). Commitment to non-work roles, such as leisure, can be detrimental to resources and job performance as a result of additional demands placed on the individual (Weer, Greenhaus, & Linnehan, 2010). To understand whether investing time into leisure will have a positive or negative impact on career sustainability we explore the effect of the interplay between the level of leisure "seriousness" and work-leisure similarity on the generation of resources.

2.2.1. Leisure seriousness

Studies have demonstrated that the approach individuals take to different leisure activities can vary (Esteve, Martin, & Lopez, 1999; Kim, Dattilo, & Heo, 2011), which may determine their effect on individuals' resources. A "serious" approach to a leisure activity is characterized by perseverance through difficulties, intention towards continued involvement, effort to acquire skills and knowledge, and the formation of an identity connected to the chosen leisure activity (Stebbins, 2011). Research has shown that a wide range of activities can constitute serious leisure, including dancing (Brown, 2007), dog breeding (Baldwin & Norris, 1999), kayaking (Kane & Zink, 2004), and bird watching (Lee & Scott, 2006). The same activity can constitute serious leisure for some, but not for others (Brown, 2007; Kim, Heo, Lee, & Kim, 2015). In contrast, low levels of seriousness reflect a "casual" approach to leisure which entails engaging in activities for short-lived pleasure or relaxation (Stebbins, 1997).

A serious approach to leisure can play a key role in generating positive outcomes for individuals (Kim et al., 2011). Because of its unique characteristics, serious leisure is particularly likely to facilitate the generation of resources (Stebbins, 1982). Engagement in serious leisure has been linked to a number of positive outcomes, including a greater sense of meaning within one's life (Phillips & Fairley, 2014), experiences of positive affect, increased skill recognition, improved social relationships (Baldwin & Norris, 1999), personal growth and improved health (Kim et al., 2011, 2015). As we argue next, it also has the potential to support the development of self-efficacy and resilience.

Researchers have noted the likely role of non-work experiences in the development of career resilience (Kossek & Perrigino, 2016; Seibert et al., 2016). As serious leisure is a non-work activity which, by definition, requires perseverance through difficulties (Stebbins, 1997), it provides the opportunity to develop resilience. Resilience can only be built when individuals are exposed to stressful experiences (Rutter, 1993). According to Fraser, Richman, and Galinsky (1999, p.137) "to be resilient one must be exposed to risk and then respond successfully". Serious leisure thus provides the opportunity to explore risky or challenging experiences inherent in development of new skills and perseverance through difficulties - and can therefore potentially facilitate the development of resilience. Difficult or frustrating experiences during serious leisure activities can signal to individuals that they have reached a further opportunity for development. Rather than seeing this situation in a negative light, they may instead interpret it as an opportunity to bounce back or prove themselves.

Similarly, serious leisure can potentially help to build self-efficacy. Serious leisure involves the development of skills and abilities (Stebbins, 2007); it provides opportunities for individuals to generate mastery experiences, and thus develop self-efficacy (Bandura, 1977). Opportunities for mastery experiences outside of the work context may be particularly useful in that they can carry fewer risks than those taken within the work place, where the risks of failure can potentially amount to losing one's livelihood. Additionally, self-efficacy in one domain is likely to contribute to self-efficacy in other domains (Grether, Sowislo, & Wiese, 2018; Yeo & Neal, 2006).

There is thus theoretical as well as empirical support for the idea that leisure can generate resources when it is high in seriousness. However, COR suggests that individuals' resource investment is not only driven by a need to create new resources but also by a commitment to achieving important goals (Halbesleben et al., 2014). This intimates that leisure high in seriousness can potentially constitute a competing domain of resource investment, and investing time in serious leisure could have resource depleting rather than resource enhancing effects (Ng & Feldman, 2012). We argue that to better understand whether serious leisure can contribute to career sustainability by building (rather than depleting) resources, the similarity between individuals' work and their leisure needs to be taken into account.

2.2.2. Work-leisure similarity

Work-leisure similarity reflects the extent to which an individual's leisure activity resembles their work role, in terms of the skills and activities involved and the mental and physical demands posed. Whether work and leisure draw on similar resources is key to understanding resource enhancing and depleting processes between these two domains. Correspondingly, work-leisure similarity features in different theoretical approaches on resource dynamics between work- and non-work domains, yet there are competing theoretical arguments regarding its effects. On one hand, Greenhaus and Powell (2006, p. 84) suggest that the successful transfer of resources between non-work and work domains is dependent upon the relevance of the resources created in one role to the second role. When similarity is high, "individuals can express themselves in similar ways across roles and can see the connection between the skill or perspective acquired in one role and the requirements of the other role." From this perspective, leisure has the potential to

build work-related resilience and self-efficacy if an individual's leisure poses similar demands and requires similar skills to their work.

On the other hand, the effort recovery model (Meijman & Mulder, 1998) proposes that similarity between work and leisure will have negative effects, because engaging in activities which draw on the same resources can lead to resource depletion. This suggests that leisure is less likely to generate resources if the activity is similar to the individual's work role because both domains use the same resources. Engagement in activities which are similar to the work role may deplete the resources needed for successful performance, which could undermine the generation and maintenance of resilience and self-efficacy.

Drawing on COR, we reconcile these conflicting arguments by considering the interplay between leisure seriousness and work-leisure similarity. We argue that investing time into leisure will be resource generating if leisure activities are high in seriousness but low in similarity. Spending time on a leisure activity that provides challenges and allows for the experience of mastery without posing similar demands to the ones encountered at work will allow individuals to develop their work-related resources in the leisure domain. The additional roles taken on during leisure activities will provide beneficial buffering effects, where positive aspects of one life role can compensate for difficulties encountered in another role (Seiber, 1974). While individuals will invest resources into their highly valued serious leisure domain (Halbesleben et al., 2014; Hobfoll, 1989), the low similarity between their leisure activity and their work means that this will be resource enhancing rather than resource depleting. For example, imagine a scientist who invests time in rock climbing as a serious leisure activity. The challenges and setbacks encountered within her serious leisure activity have the potential to promote her self-efficacy and resilience (Bandura, 1977; Masten & Reed, 2002), but do not pose the same demands as her work, such as developing theoretical arguments or performing complex experiments.

We further expect that time spent in leisure will be positively associated with resources when seriousness is low and work-leisure similarity is high. In this case, individuals spend time in a leisure activity that is characterized by short-lived pleasure or relaxation, and which does not require them to persevere through difficulties (Stebbins, 1997), but which draws on skills and knowledge similar to their work. We argue that this casual and restorative approach to a leisure activity will allow individuals to build work-related resources in a playful setting. For example, for a teacher whose leisure activity of participating in a musical theatre production is low in seriousness, spending time on stage may provide a playful way of building work-related self-efficacy. The high similarity of work and leisure mean that resources can be readily transferred between domains (Greenhaus & Powell, 2006), while the low seriousness of the leisure activity means that it does not provide a competing area of resource investment (Ng & Feldman, 2012).

In contrast, when both leisure seriousness and work-leisure similarity are high, leisure and work constitute competing areas of resource investment. Under these circumstances, we expect time spent in leisure to be negatively associated with individuals' work-related resources, as the effort recovery model would suggest (Meijman & Mulder, 1998). Investing time in a leisure activity which draws on the same resources as one's work is likely to deplete the resources, which then negatively impacts performance (Binnewies, Sonnentag, & Mojza, 2009). This is in turn likely to undermine the generation and maintenance of resilience and self-efficacy.

Finally, when individuals invest time in leisure activities that are dissimilar to their work and low in seriousness, this may have relaxing effects but is unlikely to generate resources required for individuals to proactively manage their career and thus unlikely to contribute to career sustainability (De Vos et al., 2018). In sum, we propose the following three-way interactions:

Hypothesis 2a. There will be a three-way interaction between time spent in leisure, leisure seriousness and work-leisure similarity in predicting work-related self-efficacy. When seriousness is high and similarity is low, or when seriousness is low and similarity is high, time spent in leisure will be positively associated with self-efficacy. When seriousness and similarity are both high, time spent in leisure will be negatively associated with self-efficacy.

Hypothesis 2b. There will be a three-way interaction between time spent in leisure, leisure seriousness and work-leisure similarity in predicting work-related resilience. When seriousness is high and similarity is low, or when seriousness is low and similarity is high, time spent in leisure will be positively associated with resilience. When seriousness and similarity are both high, time spent in leisure will be negatively associated with resilience.

3. Method

3.1. Procedure and sample

As we were interested in the effects of investing time in leisure activities, recruitment of participants was targeted at individuals who were currently involved in such activity. We recruited participants over a period of two months at sporting events and leisure activity venues in the north of England, including indoor climbing walls and park runs. Participants were also recruited by posting advertisements for the study on social media groups and online forums connected to leisure activities, including table-top gaming, musical theatre, choral singing, and circus skills. This technique allowed us to connect with potential participants from a wide range of activities. 280 individuals registered to take part in the study.

We emailed participants a link to an online questionnaire once a month over the course of 7 months. Participants were entered into a prize draw for £20 shopping vouchers following completion of each monthly survey, to encourage continued participation. By collecting data about a full month we aimed to capture the impact of frequent *and* repeated engagement in the leisure activity (or lack thereof), rather than individual episodes of the activity. One month intervals are also likely to be long enough for the psychological sources of self-efficacy and resilience to be developed, but not so long that participants would struggle to recall their leisure experiences. In a meta-analysis of positive psychology interventions Bolier et al. (2013) suggested at least four weeks for changes to be observed, while timeframes over a month are likely to result in inaccurate recall strategies (Robinson & Clore, 2002).

We received an average of 120 responses per month across the entire study. Our final sample of consisted of 129 individuals who fulfilled our three study criteria of being in employment, having a leisure activity, and completing at least two of the 7 monthly surveys. From these 129 respondents we received 717 complete survey responses across the 7-month period. This represents the level-1 sample size, for testing within-person variables (Bolger & Laurenceau, 2013). The average age of respondents was 35.22 (SD 8.51), and 53% identified as female. Seventy-eight percent of participants reported having no children under the age of 18 in their household.

3.2. Measures

Measures of participants age, gender, number of children, main leisure activity, work-leisure activity similarity, and seriousness of leisure were collected at Time 1. The remaining variables, comprising self-efficacy, resilience, and time spent undertaking leisure activities, were measured in all seven surveys, including Time 1. All items for the measures described below, unless otherwise indicated, were rated on a five point Likert scale from "Strongly Disagree" (1) to "Strongly Agree" (5).

3.2.1. Measures collected at Time 1 only

3.2.1.1. Seriousness of leisure. To assess the extent of the seriousness of their approach to their chosen activity, participants rated the extent to which the activity reflected the defining characteristics of serious leisure, using the measure developed by Heo, Lee, McCormick, and Pedersen (2010). The four items were: "This activity is very important in describing who I am"; "I intend to become accomplished in this activity"; "I regularly train for this activity" and "I believe I have the potential to be good at this activity". The internal consistency reliability of this measure was satisfactory given the relatively small number of items (Cronbach's alpha = 0.69).

3.2.1.2. Similarity between work and leisure roles. We created four items to assess the similarity of the physical and mental demands and the tasks and skills required in each role. "My work tasks are similar to the activities I do while taking part in this activity", "I require similar skills and abilities to be successful in my job and this activity", "The mental demands of this activity are similar to my work role", "The physical demands of this activity are like those of my work role". Cronbach's alpha was 0.76.

3.2.2. Measures collected on a monthly basis

3.2.2.1. Time spent in leisure. Within each monthly survey, participants reported the amount of time they spent in their main leisure activity over the previous month (in hours). The types of leisure activities reported by participants included climbing, running, creative writing, crafting, and improvisational comedy. This variable was person-mean-centered so that it represented the difference in the time spent in the leisure activity above or below each person's monthly average.

3.2.2.2. Self-efficacy. Self-efficacy was measured with an eight item measure of job related self-efficacy adapted by Neff et al. (2013) from the original generalized self-efficacy scale (Chen, Gully, & Eden, 2001). An example item is "At work I am able to successfully overcome many challenges". The average internal consistency reliability (Cronbach's alpha) over the seven surveys was 0.87.

3.2.2.3. Resilience. Resilience was measured with the 6-item scale adapted by Luthans, Youssef, and Avolio (2007) from the resilience scale developed by Wagnild and Young (1993). The scale includes items such as "I can get through difficult things at work because I have experienced difficulty before". The average Cronbach's alpha over the seven monthly surveys was 0.70.

3.2.3. Control variables

We controlled for the potentially confounding effects of age, gender, childcare responsibilities, the tenure of engagement in their leisure activity, and the type of leisure activity (specifically whether it was a physical activity or not). Age (in years) and gender (1 = female, 0 = male) have been associated with the amount of time individuals may spend in their leisure activities (Sayer, 2016) as well as being linked to the dependent variables (Chan et al., 2015). Childcare responsibilities (1 = at least one child under 18 in the household, 0 = no children in the household) have been shown to positively influence self-efficacy (Ruderman et al., 2002) as well as reducing the free time available for pursuing leisure activities (Mattingly & Bianchi, 2003). We included tenure (in years) within a leisure activity as individuals may have fewer opportunities to develop new skills once they become more experienced within an activity. Finally, research shows that the physicality of leisure impacts upon a range of resources such as individuals' ability to deal with stress (Toker & Biron, 2012). It also has long- (Wang et al., 2012) and short term implications for well-being (Nägel & Sonnentag, 2013). Therefore, it was important to verify that any effects on self-efficacy and resilience were not caused by the physical element of the leisure activity. Three of the authors independently coded the leisure activities into "physical" and "non-physical", checking for reliability between coders and resolving any disagreements through discussion. The resulting variable, "physical leisure", distinguishes between activities that are "physical" (1) and "non-physical" (0). 66% of the leisure activities research participants engaged were categorized as physical.

3.3. Analysis strategy

We carried out our analysis in two stages:

3.3.1. Measure validation

First we tested the factor structure of our proposed measures. We conducted a multilevel confirmatory factor analysis (MCFA) of the established measures of self-efficacy (Neff et al., 2013) and resilience (Luthans et al., 2007) collected over the course of 7 monthly surveys. As recommended by Hox (2010), we initially examined the ICC(1) statistics for each item to detect whether they had meaningful variance at the higher (person) level. Both the self-efficacy and resilience items demonstrated a non-trivial proportion of variance at the person level (self-efficacy $0.34 < ICC(1) < .49$; resilience $0.24 < ICC(1) < 0.56$) substantiating the use of MCFA. We then confirmed the lower (i.e., observation) level factor structure, testing a two-factor model, and comparing it with an alternative one-factor solution.

When testing the observation level model only, our proposed two factor structure both yielded a satisfactory fit (CFI = 0.90, RMSEA = 0.05, SRMR = 0.05 [within]) and outperformed the one factor structure (Δ Chi-sq = 98.96, Δ $df = 1$, $p < .001$). The inter-factor covariance was trivial in size (rho = 0.04, $p = .005$) suggesting that distinct factors were being estimated. Having finalized the observation-level model, this was held constant while the person-level structure was examined, testing two-factor and one-factor person-level structures. Likewise a person level structure of two factors (CFI = 0.94, RMSEA = 0.074, SRMR = 0.065) offered a better fit than one factor (Δ Chi-sq = 100, Δ $df = 1$, $p < .001$).

For the person-level measures of seriousness of leisure and work-leisure similarity which were collected at Time 1 only, we carried out a separate confirmatory factor analysis (CFA) at the person level, and tested the proposed two-factor model against a single factor alternative. The proposed two factor structure for our person level measures of work seriousness and work-leisure similarity also yielded a satisfactory fit to the data (CFI = 0.94, RMSEA = 0.07, SRMR = 0.06), and outperformed a one factor model (Δ Chi-sq = 100, Δ $df = 1$, $p < .001$). The inter-factor covariance (rho = 0.01, $p = .8$) was small enough to suggest discriminant validity. For the analysis of our hypotheses we used observed (mean scale scores) rather than latent variables to make the number of parameters more appropriate for our person-level sample size.

3.3.2. Hypothesis testing

To test our hypotheses, we used multilevel path analysis (Hox, Moerbeek & Van de Schoot, 2017) to allow us to analyze the effects of our predictor variables on both self-efficacy and resilience simultaneously, while taking the two-level data structure of repeated observations nested within individuals into account. A series of ten competing models were fitted, starting with the unconditional model with correlated outcomes (to separate the variance within and between persons, and establish a baseline model deviance). We then added in sequence: the fixed effects of hypothesized controls at the person-level, the fixed effect of person-mean-centered time spent in participants' leisure activity on each outcome at the observation level, random effects of time spent in leisure on each outcome, and then the main effects and interaction between our person-level moderators leisure seriousness and work-leisure similarity. Table 2 shows the predictors or random effects added at each stage. Control variables were included in models 2 to 8 inclusive. We used maximum likelihood to estimate the models, with the competing models compared using Chi-square difference tests on the change in deviance (Hox, 2013). Mplus, v8.1 (Muthén & Muthén, 2012) was used to fit all MCFA, CFA and path analysis models. Given the respective observation level and person level sample sizes, the $p < .005$ level of statistical significance was used for testing observation level relationships (e.g., Hypotheses 1a, 1b), and the $p < .05$ level was used when testing person level relationships (Hypotheses 2a and 2b).

Table 1
Means, standard deviations, and zero-order correlations variables.

	Mean	SD	1	2	3	4	5	6	7	8	9	10
1. Age[a]	35.22	8.51										
2. Gender[b]	0.47	0.50	0.13									
3. Childcare responsibilities[c]	0.22	0.41	0.33	0.18								
4. Physical leisure[d]	0.66	0.47	0.04	−0.01	0.14							
5. Leisure tenure[a]	10.68	9.34	0.37	0.15	0.15	−0.05						
6. Seriousness	3.99	0.65	−0.10	−0.07	−0.12	0.01	0.06					
7. Work-leisure similarity	2.32	0.92	0.07	0.03	0.03	−0.37	0.08	0.03				
8. Resilience	3.73	0.37	0.04	−0.13	−0.07	0.13	0.14	0.12	0.12		0.44	0.07
9. Self-efficacy	3.81	0.40	0.02	−0.18	−0.15	0.19	0.08	0.20	0.10	0.73		0.06
10. Time spent in leisure[e]	0.00	0.09										

Correlations above the diagonal are observation-level correlations ($N = 717$) Correlations above 0.09 on the observation level are significant at the 0.05 level. Correlations below the diagonal are-person-level correlations (129 observations). Correlations above 0.21 on the person level are significant at the.05 level.

[a] Measured in years.
[b] 1 = female and 0 = male.
[c] 1 = at least one child under 18 in the household, 0 = no children in the household.
[d] 1 = physical and 0 = non-physical.
[e] Person mean centered.

Table 2
Model improvement statistics and residual variance of outcomes and random slopes.

					Observation-level residual variance		Person-level intercept variance		Person-level slope variance	Person-level slope variance	Intercept-slope covariance
Model		Deviance	Δ Deviance	Δ DF	Self-efficacy	Resilience	Self-efficacy	Resilience	Self-efficacy	Resilience	Self-efficacy
1	Baseline model containing outcome variables (resilience and self-efficacy)	1240.83	217.926	–	0.119	0.104	0.164	0.135	–	–	–
2	Added control variables; age, gender, childcare responsibilities, physical leisure, leisure tenure	1226.294	14.536	10	0.119	0.104	0.145	0.125	–	–	–
3	Added observation level fixed effect of time spent in leisure activity (person-mean-centered)	1222.174	4.12	2	0.118	0.104	0.145	0.125	–	–	–
4a	Made observation level effect of time spent in leisure on self-efficacy random	1217.014	5.16*	1	0.111	0.104	0.146	0.125	0.775	–	–
4b	Made observation level effect of time spent in leisure on resilience random Take forward Model 4a…	1222.166	0.008	1	0.118	0.104	0.145	0.125	–	0.009	–
4c	Allowed self-efficacy to covary with random slope Take forward Model 4a…	1216.15	0.864	1	0.111	0.104	0.147	0.125	0.848	–	−0.052
5	Added seriousness and work-leisure similarity as predictor of self-efficacy and resilience	1208.814	8.2	4	0.111	0.104	0.136	0.121	0.766	–	–
6	Added seriousness* work-leisure similarity as predictor of self-efficacy and resilience	1206.898	1.916	2	0.111	0.104	0.135	0.121	0.767	–	–
7	Added seriousness and work-leisure similarity as predictors of the variation in the random slope for additional time spent in leisure predicting self-efficacy	1198.962	7.936*	2	0.111	0.104	0.135	0.121	0.567	–	–
8	Added seriousness* work-leisure similarity interaction as a predictor of the variation in the random slope for additional time spent in leisure predicting self-efficacy	1182.798	16.164***	1	0.111	0.104	0.135	0.121	0.127	–	

N = 717 observations from 129 participants. Significance of change in deviance: *p < .05, ***p < .001.

Table 3
Parameter estimates for full final model (Model 8).

	Self-efficacy			Resilience		
Predictor variable	B	SE	95%CI	B	SE	95%CI
Observation-level effects						
Leisure time[e]	0.127	1.440	[−2.696, 2.950]	0.215	0.134	[−0.049, 0.479]
Person-level intercept						
Age[a]	0.002	0.004	[−0.006, 0.01]	0.001	0.004	[−0.008, 0.009]
Gender[b]	−0.136	0.073	[−0.279, 0.008]	−0.097	0.068	[−0.23, 0.035]
Children[c]	−0.167	0.093	[−0.35, 0.016]	−0.092	0.081	[−0.251, 0.067]
Physical leisure[d]	0.248**	0.089	[0.073, 0.423]	0.165	0.086	[−0.004, 0.333]
Leisure tenure[a]	0.004	0.004	[−0.003, 0.012]	0.006	0.004	[−0.001, 0.014]
Seriousness	0.254	0.141	[−0.021, 0.53]	0.078	0.12	[−0.157, 0.314]
Work-leisure similarity	0.331	0.236	[−0.131, 0.793]	0.116	0.184	[−0.244, 0.475]
Seriousness*Work-leisure similarity	−0.062	0.059	[−0.177, 0.053]	−0.013	0.047	[−0.105, 0.08]
Person level slope of leisure time (person mean centered)						
Seriousness	1.996**	0.687	[0.648, 3.343]	–	–	–
Work-leisure similarity	4.209***	1.005	[2.239, 6.179]	–	–	–
Seriousness*Work-leisure similarity	−0.985***	0.212	[−1.400, −0.570]	–	–	–

** $p < .01$.
*** $p < .001$.
[a] Measured in years.
[b] 1 = female and 0 = male.
[c] 1 = at least one child under 18 in the household, 0 = no children in the household.
[d] 1 = physical and 0 = non-physical.
[e] Person centered.

4. Results

The means, standard deviations and correlations for the study variables can be found in Table 1. The model fit statistics, model comparison tests, and estimated variance parameters for each of our models are summarized in Table 2. In our unconditional model both outcomes (self-efficacy and resilience) showed a high degree of clustering within individuals (ICC(1) = 0.59 and.58, respectively), supporting the use of a multilevel approach.

Hypotheses 1a and b, which proposed that spending more time than usual in leisure would be positively related to self-efficacy and resilience respectively, were not supported. Model 3, in which these paths were added, was not a significant improvement on Model 2, which contained only the effects of the control variables on each outcome ($\Delta -2LL = 4.12$, $\Delta df = 2$, $p = .127$). Likewise, the path estimates from additional time spent in leisure to each outcome were non-significant (path to self-efficacy: B = 0.24, SE = 0.14, $p = .081$; path to resilience: B = 0.22, SE = 0.13; $p = .089$).

Allowing the effect of additional leisure time upon self-efficacy to vary by participant significantly improved model fit (Model 4a vs. Model 3: $\Delta -2LL = 5.16$, $\Delta df = 1$, $p = .023$). Adding this random effect explained a further 6.7% of the residual variance in self-efficacy at the observation level. These results collectively suggest that there are differences between participants in the way that time spent in leisure impacts self-efficacy. The moderating variables are added in the next step in order to reduce this unexplained slope variance which would support our proposed interaction hypothesis.

However, when the equivalent random effect was added for resilience this did not improve model fit (Model 4b vs. Model 3: $\Delta -2LL = 0.008$, $\Delta df = 1$, $p = .928$). The slope variance term was non-significant ($p = .938$) and little residual variance in resilience was explained (< 1%). This indicated that Hypothesis 2b was not supported, as there was minimal variance in the slope between participants to be explained by our proposed moderating variables.

Therefore, in our following models we retained the random slope only for the effect of time spent in leisure on self-efficacy. We checked for any covariance between the self-efficacy intercept and the additional leisure time-self efficacy slope (Model 4c vs. Model 4b $\Delta -2LL = 0.86$, $\Delta df = 1$, $p = .352$), and controlled for the effects of our moderators (seriousness and work-leisure similarity) upon the intercepts of self-efficacy and resilience (Models 5 to 6). Finally, we added the moderators' main effects, and the effect of the interaction between them, upon the person-level slope variance (Models 7 to 8). The path estimates from this final model (Model 8) are shown in Table 3. The addition of the interaction significantly improved model fit (Δ-2LL = 16.16, $df = 1$, $p < .001$), yielded a statistically significant path estimate (B = −0.99, SE = 0.21; $p < .001$), and explained 56.3% of the original slope variance. The graph of the interaction effect (see Fig. 1) shows that as seriousness becomes high and similarity gets lower – and when seriousness decreases and similarity becomes high – time spent in leisure is positively associated with self-efficacy. Further, as both seriousness and similarity increase, time spent in leisure becomes negatively associated with self-efficacy. Hypothesis 2a was thus supported.

4.1. Supplementary analysis

In order to establish whether experiences on preceding months were influencing our results we ran additional analysis which

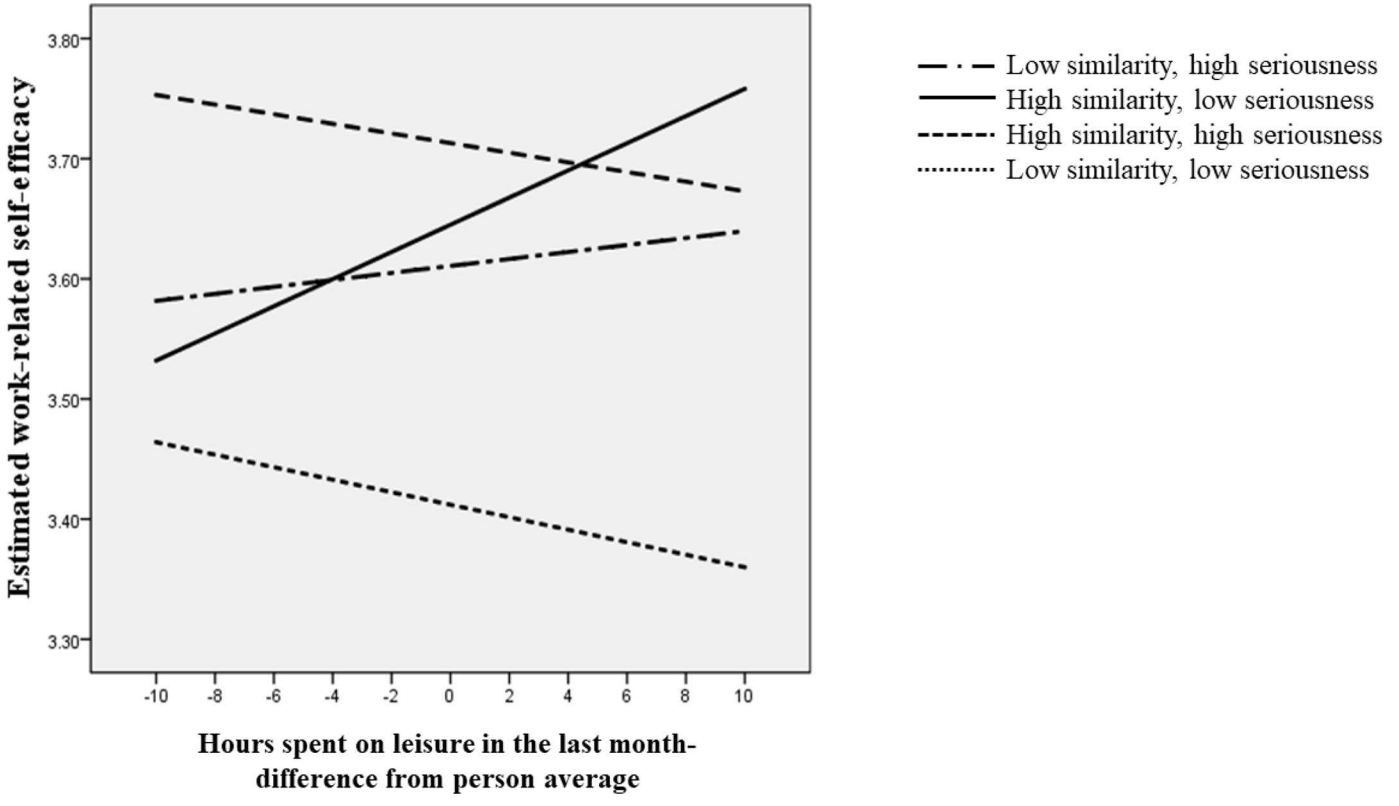

Fig. 1. Three-way interaction between extra time spent engaging in leisure, leisure seriousness, and work-leisure similarity when predicting work-related self-efficacy. High and low levels of similarity and seriousness represent one standard deviation above and below the mean, respectively.

controlled for lagged effects of self-efficacy and resilience on our outcomes variables (i.e., we allowed self-efficacy in Month 1 to predict self-efficacy in Month 2). We also controlled for measurement occasion (i.e., removing any variance in the dependent variables that might have been related to the passage of time). This model showed substantively the same effects as our original model. Because the lagged design reduced our N at the lower level to 533, we retained the non-lagged model.

We also tested lagged effects between the study variables themselves (i.e., person-centered time in leisure in Month 1 predicting self-efficacy and resilience in Month 2). As in the (non-lagged) analysis we report above, we did not find evidence of a relationship between time spent in leisure and resources. However, we also did not find a significant random effect of time spent in leisure on self-efficacy in the lagged design. This indicates that there is no significant difference between our participants in the strength of the relationship between leisure one month and resources the following month which could be explained by any moderating effects. Therefore, we find no evidence that influences stemming from the time participants spend in their leisure activity will spill over from one month to the next.

5. Discussion

Sustainable careers require individuals to preserve and generate resources across their career span (De Vos et al., 2018). These resources are not only generated in the work domain, but can also be developed outside of work. Such positive interactions between work and broader life domains are a key characteristic of sustainable careers (De Hauw & Greenhaus, 2015; Seibert et al., 2016; Valcour, 2015). While there is evidence that the family domain can potentially be an arena for the generation of resources (Greenhaus & Powell, 2006), little research to date has investigated the role of leisure in this process. Following recent calls for greater consideration of non-work influences on the long term viability of careers (De Hauw & Greenhaus, 2015), we draw on conservation of resources (COR) theory to untangle the resource-depleting and resource-enhancing effects of leisure. This allows us to better understand how leisure may influence career sustainability through its effects on resources required to proactively manage careers.

Using monthly measurements over 7 months, our study found that spending additional time in a leisure activity was indeed associated with the resources relevant to sustainable careers, but only under certain circumstances. Our results showed support for a three-way interaction between time spent in leisure, leisure seriousness and work-leisure similarity in predicting work-related self-efficacy. When seriousness was high and similarity was low, *or* when seriousness was low and similarity was high, time spent in leisure was positively associated with self-efficacy. However, when seriousness and similarity were both high, time spent in leisure was *negatively* associated with self-efficacy. Our findings have implications for the literature on career sustainability by providing a nuanced perspective on when leisure can be conducive or detrimental to career-related resources. While there are many ways in which leisure can potentially enhance career sustainability, such as by promoting individuals' health (Han & Patterson, 2007) or life satisfaction (Kuykendall et al., 2015), our paper considers one important mechanism through which leisure activities may enable individuals to safeguard their productivity throughout their career (De Vos et al., 2018): the acquisition of resources. Rather than pointing towards universally positive effects of leisure, our study provides initial evidence for the complex role leisure plays for work-related psychological resources.

Drawing on COR theory, we argued that individuals with leisure activities high in seriousness would be motivated to invest resources in their highly valued leisure domain (Halbesleben et al., 2014), which could potentially interfere with work demands and may therefore represent a threat to career sustainability, but only when work-leisure similarity was high. In line with our expectations, we found that spending more time than usual in leisure was indeed negatively associated with work-related self-efficacy when seriousness was high and work-leisure similarity was also high. Over time these lower levels of self-efficacy may reduce a person's willingness and capability to maintain effective work performance (Stajkovic & Luthans, 1998) and reduce their engagement with challenging and developmental work activities that help to maintain a sustainable career (Maurer, 2001). While we did not test work performance outcomes directly, future research may explore the impact of leisure which is similar to an individual's work on their job performance and on their career sustainability over time.

Furthermore, spending more time than usual in leisure activities which were highly serious but dissimilar from one's work was positively associated with self-efficacy. This result suggests that psychological resource generation can be supported by engaging in different activities within work and leisure, which is consistent with the propositions of role accumulation theory (Seiber, 1974). Role accumulation theory suggests that adding additional roles can encourage the accumulation of resources through the diversity of the experiences gained from each role. It also suggests a potential buffering effect of leisure on work, in that positive experiences in one role can compensate for negative experiences in another role. In support of these arguments, our results indicate that spending time in leisure that requires skills and knowledge *dissimilar* to those employed during the work day, is linked to an increase in work-related self-efficacy, but only when individuals take a serious approach to their leisure activity, making it a valued domain for resource investment (Halbesleben et al., 2014).

In summary, our findings have implications for further research on the role of leisure in career sustainability. We have provided initial evidence for the complex role that leisure plays in the generation of resources that contribute to sustainable careers. It highlights that the effects of leisure are not universally positive. Instead, a serious leisure activity is only beneficial when it poses dissimilar demands to the work role. This opens a number of avenues for future research. For example, it potentially has important implications for those considering turning their valued leisure activity into a job or business (sometimes referred to as a hobby-job; Rubino, Luksyte, Perry, & Volpone, 2009), which is often seen as a viable way for individuals to bring their passion or calling into their working life (Demetry, 2016; Lysova & Khapova, 2018). Making career decisions in line with one's authentic interests is an important aspect of sustainable careers (De Vos et al., 2018), yet our findings highlight the potential negative effects of drawing on similar resources in work and serious leisure. Future research may explore the resource dynamics in hobby-jobs and other contexts

which create situations where work and leisure draw on highly similar resources. Our findings might suggest that people in this position should take up a different serious leisure activity. A study of those who do and do not make such a switch could be illuminating. Our findings also highlight the need for a nuanced approach to the study of resource generation across domains.

In addition to our contribution to research on sustainable careers we also provide insights in the areas of work-home enrichment (Greenhaus & Powell, 2006) and recovery from work (Sonnentag, 2003; Sonnentag & Fritz, 2007) by reconciling conflicting predictions about when leisure, as a non-work domain, may generate work-related resources. The work-home enrichment model proposes that similarity between work and non-work domains facilitates enrichment (Greenhaus & Powell, 2006) by helping individuals to more easily recognize the potential for them to use the skills and abilities that they develop in one domain (e.g. leisure) to perform well in another domain (e.g. work). However, the effort recovery model suggests that engaging in similar activities during work and leisure time will impair recovery by taxing the same functional systems and thus deplete resources. We reconcile these conflicting predictions by identifying the level of seriousness as an important boundary condition for these effects. High levels of seriousness appear to interfere with the enriching effects of high work-leisure similarity, potentially via the intensity with which an individual engages with their leisure activity. In contrast, a less intense and more playful approach appears to avoid the depleting effects of similarity and allow enrichment to occur, when seriousness is low.

Our findings also have implications for the literature on leisure. While previous studies have shown that a serious approach to leisure can have positive effects, such as positive affect (Baldwin & Norris, 1999), a sense of meaning and social connectedness (Phillips & Fairley, 2014), increased life satisfaction and improved health (Kim et al., 2011, 2015), the effects of leisure on work-related self-efficacy appear to be more complex, and depend on the similarity between the demands posed and the skills and knowledge required by work and leisure. These aspects of the leisure experience should be incorporated in future investigations into the effects of leisure on other aspects of individuals lives including, and extending beyond, the work domain.

Our hypotheses posited that spending more time than usual in leisure would be related to both self-efficacy and resilience. However, we found no evidence that leisure was related to resilience, irrespective of the level of seriousness or work-leisure similarity. This suggests that the resource generating effects of leisure may be limited to certain specific resources. One possible explanation is that leisure activities provide individuals with mastery experiences, allowing them to build their self-efficacy, but that individuals do not experience regular setbacks within their leisure which would have increased their resilience. While qualitative studies have shown that individuals do experience setbacks within their leisure activities, for example, runners and triathletes may suffer injuries or setbacks in their training schedules (Kennelly & Moyle, 2013; Major, 2001), and amateur dancers have reported challenges associated with dancing competitively in their hobby (Brown, 2007), individuals may, in general, have a preference for leisure activities which do not result in regular setbacks. This avoidance of setbacks may limit their capacity to build resilience through their leisure activity. Future research should measure specifically the extent to which individuals experience setbacks within their leisure activity and explore the relationship between these experiences and resilience. It is also possible that resilience requires longer to develop, and that this process was therefore not captured by our monthly measure. While further studies adopting longer time frames are needed to explore how leisure activities can contribute to resilience, our study indicates that while leisure is linked to resources that can help sustain a career, it should not be assumed that this effect is interchangeable amongst different resources.

5.1. Practical implications

Some organizations and managers pre-conceive the “ideal worker” to be exclusively committed to their occupation or organization, engaging in long work hours and showing little to no interest in non-work domains (Dumas & Sanchez-Burks, 2015). However, our research indicates that an individual's career and performance may benefit from their commitment to their leisure, but only if it is dissimilar from their work. Our findings highlight potential challenges for individuals with leisure activities which are similar to their work role. For these individuals increasing the time they spent on their leisure activity was related to a decrease in their work-related self-efficacy when they were highly serious about their activity. Individuals with this profile of leisure and work may need to take extra care to avoid conflict between their leisure activity and their work demands, particularly at key events such as career transitions, which require additional psychological resource investment (Heppner, Multon, & Johnston, 1994).

In contrast, our results also show potential for leisure activities which are highly similar to work may also have positive effects on work related resources, when the activity is less serious to the individual. In order to help employees manage these complex interactions between work and home, organizations may consider integrating the leisure domain into training aimed at increasing family supportive supervisor behaviors (Odle-Dusseau, Hammer, Crain, & Bodner, 2016) to support the positive effects and mitigate the potential negative effects of leisure on career-relevant resources. This may have positive impacts on retention and talent management, particularly given the increasing value placed on leisure within younger generations (Twenge, Campbell, Hoffman, & Lance, 2010).

5.2. Limitations and future research

Like all research, our study has some limitations. One is the use of self-report data, which can result in common method bias (Podsakoff, MacKenzie, & Podsakoff, 2012). However, self-reports are appropriate when the variables relate to internal states that the individual is best placed to assess, such as resilience and self-efficacy, or a serious approach to leisure. The risk of common method bias can be further reduced by creating a psychological barrier between different measures, such as by using different question types or response formats (Podsakoff et al., 2012). Our independent variable was the amount of time spent in a leisure activity. Measures of the amount of time spent in a role or activity are common in studies of non-work activities, particularly in relation to changes in

resources (e.g. Bakker, Demerouti, Oerlemans, & Sonnentag, 2013; Feuerhahn, Sonnentag, & Woll, 2012; Mojza et al., 2011; Winwood, Bakker, & Winefield, 2007). This assessment requires episodic memory, and as such is a different type of reflection than the measures of career-relevant resources. The measures also required different response formats (an estimation of time rather than a Likert scale), reducing the potential impact of common method bias.

Our study provides initial support for the potential of time spent in leisure to enhance resources critical to the sustainability of careers, and our within-person approach allowed us to examine the effects of deviations from a person's average level of time spent in their leisure activity over the course of a month, while controlling for between-person differences in the average time spent in leisure. However, time spent within an activity may not be the only meaningful way of gauging an individual's engagement in the activity. Future research could consider additional measures of role engagement from work-family literature, such as attention and absorption (Rothbard, 2001) or more specific daily aspects of leisure engagement such as the time of day individuals engage in their activities. Additionally, it is worth noting when interpreting these findings that our sample was predominantly adults without childcare responsibilities. Therefore, our results may not generalize to populations with higher levels of parenthood. Future research is needed to replicate and expand on these findings by examining the combined impact of parenthood and leisure on resources.

Further, we focused specifically on how leisure activities create psychological resources, namely self-efficacy and resilience. However, leisure activities are also likely to build other resources that contribute to career sustainability such as health or social support. Future research should further investigate the different avenues by which leisure activities can contribute to resources for sustainable careers.

As we noted in the introduction, maintaining a balance between valued non-work elements of life while developing a satisfying and fulfilling career trajectory is vital for creating a sustainable career (De Hauw & Greenhaus, 2015). The negative relationship between highly serious and similar activities with self-efficacy highlights potential conflict between leisure, as a non-work element of a sustainable career, and the maintenance of important resources such as self-efficacy, which are necessary for managing the work-related elements of a sustainable career. Future research may investigate this further by examining the extent to which conflict between leisure activities and work activities influences the indicators of a sustainable career including well-being, health, and productivity.

Future research could also consider alternative moderators which are relevant to the way leisure activities can support sustainable careers, drawing on a COR approach to career sustainability (De Vos et al., 2018). For example, COR suggests that individuals' resource investment behavior depends on their perceptions of investment instrumentality (Halbesleben & Wheeler, 2015), and studies have shown that individual differences influence resource investment strategies (Strauss & Parker, 2018). Recovery research also highlights the importance of intrinsic motivation (ten Brummelhuis & Trougakos, 2013; Van Hooff & Baas, 2013) and enjoyment of leisure (Oerlemans et al., 2014) as moderating factors for resource generation and recovery. We add to the recovery literature by considering the impact of the seriousness of the leisure activity. Enjoyment and intrinsic motivation are related to, yet distinct from, the concept of seriousness. Due to the need to persevere through difficulties, which is inherent in the definition of serious leisure (Stebbins, 2007), not all experiences of highly serious leisure will be enjoyable. Therefore, while seriousness moderates the influence of similarity on leisure-resource relationship, an individual's intrinsic motivation and enjoyment within that activity may additionally influence the extent to which leisure can support a sustainable career. Further research is needed to explore these possible moderating effects.

6. Conclusion

The preservation and generation of resources is a key aspect of career sustainability, yet there are different theoretical perspectives on the role that the non-work domain, and specifically leisure, plays in this. While some scholars highlight the potential for enriching effects across work and leisure (Greenhaus & Powell, 2006), others position them as competing for resources (Meijman & Mulder, 1998). By reconciling different resource-based theories, our paper highlights that both can be the case, and that a fine-grained approach is required to study the influence of non-work domains on careers.

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