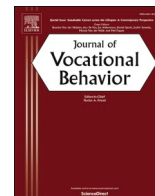


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On your marks, get set, go! Jumping the hurdles of employability development at an early career stage

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ABSTRACT

This study draws on contributions from Social Cognitive Career Theory and Conservation of Resources theory to investigate how configurations of career barriers associated with gender and ethnicity influence the development of perceived employability. Our study with graduates surveyed before and two years after completing their degrees, shows that groups of graduates perceiving higher career barriers experience a significant decline in perceived employability during the early stage of their careers. In contrast, those perceiving fewer career hurdles report a more stable employability trajectory and have higher perceived employability two years after graduating. Our study contributes to the literature by showing that perceived employability does not necessarily increase with labor market experience but can instead remain stable or even decline depending on perceived career hindrances.

1. Introduction

The number of people graduating from higher education institutions has increased rapidly in recent years in most western countries, reflecting a generalised shift to mass higher education systems (Scurry & Blenkinsopp, 2011). Once viewed as an elite preparing to occupy key professional and managerial roles, the starting position of graduates in the labor market is now more uncertain (Blokker et al., 2023). Research shows that many graduates face a range of barriers to finding a (good) job and often experience unemployment and underemployment following the completion of their degree (Clarke, 2018; Tomlinson, 2012). As a result, graduate employability, capturing “an individual’s chance of a job in the labor market” (Forrier & Sels, 2003, p. 106), is an increasing concern for governments, higher education providers, and graduates themselves.

The importance of employability as a contemporary form of job security and a contributing factor to career success is also reflected in a growing volume of scholarly research. Yet three issues require more attention. First, Fugate et al. (2021) in their review convincingly show that many studies are concerned with factors and interventions that could, mostly through individual agency, enhance employability through upskilling. Yet, the individual is embedded in a context and reads and makes sense of this context.

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Relatively few studies have addressed how the interplay between agency and context can shape career development, particularly in terms of hindering individuals' progress. This scarcity may stem from the limited availability of concepts that facilitate such exploration. Career barriers are an exception. The focus on career barriers is particularly important for graduates transitioning to the labor market who not only struggle to develop their vocational and professional identity but also lack the knowledge and the resources to engage in focused job search processes (Tomlinson, 2017). Research shows that an undesired transition to the labor market – particularly when involving periods of unemployment – can have a long-lasting and even a permanent scarring effect on graduates' career prospects resulting, among others, in earning losses (Gartell, 2009).

Second, the review also shows that most research is quite static, with a focus upon either antecedents or consequences of employability. A stream of research explores skills and competences, human and social capital as key antecedents of employability (Van der Heijden et al., 2009; Wille et al., 2013; Wittekind et al., 2010). A separate stream of studies focuses on its implications for individuals (e.g., career mobility and career success) and employers (e.g., commitment and turnover) (Dries et al., 2014; Nelissen et al., 2017; Philippaers et al., 2016). As such, both streams largely fail to explore the processes through which employability changes and develops over time. This is further accentuated by the fact that most studies are cross-sectional, and the existing longitudinal studies are in fact 'shortitudinal' with time lags that are perhaps insufficient to capture significant change. This is at the very least surprising as employability is often framed in the context of change, and for graduates in particular, in the transition from education to the labor market (Grosemans & De Cuyper, 2021).

Third, studies that address change have predominantly sought to capture general trends in employability development. While this is obviously useful and relevant, it builds on the rather contentious assumption that employability develops favorably for everyone over time. In fact, an important stream of research focusing on the transition from education to the labor market highlights important diversity in employability outcomes by showing how graduates from more affluent backgrounds are more likely to acquire prestigious credentials, successfully self-manage their careers (e.g. by networking) and find graduate level jobs in comparison with those from a working class background (Okay-Somerville et al., 2022; Okay-Somerville & Scholarios, 2017). By the same token, a more recent and smaller set of contributions adopting a person-centred approach have highlighted that the focus on general trends can hide important heterogeneity in patterns of stability but also in change in employability across sub-groups of the population (Kırves et al., 2014; Mäkkikangas et al., 2013). With the notable exception of Grosemans et al. (2023), the majority of these studies focus on mature workers (with an average age over 40) who have arguably consolidated their career values and goals as well as their human and social capital. If employability can become more stable as individuals experience work and gain a realistic preview of their chances in the labor market it is plausible that these studies have failed to capture a critical period when individuals transition to the labor market where employability can be shaped (Grosemans & De Cuyper, 2021).

In response, our aim is to contribute to understanding the role of career barriers as a key factor influencing the development of perceived employability (i.e. the evaluation of available jobs in the labor market) among graduates as they transition to the labor market. The focus on perceived employability is more common in research with samples of unemployed job seekers and employees, and less so in graduate samples - for exceptions, see Petruzzello et al. (2023) and Rothwell and Arnold (2007). Graduate employability studies typically focus upon individual's strengths, for example competences and abilities. The assumption is that having a stock of competences may increase one's chances in the labor market, which is a key concern for educational institutions. Yet, we take a perceived employability approach. The main reasons are that perceived employability provides a stronger contextualized account of employability as these perceptions are based on personal strengths (including knowledge, skills and abilities), an evaluation of the labor market and their interplay (Wittekind et al., 2010). This perspective holds significant relevance, yet it remains notably absent, in studies focusing on graduates transitioning to the labor market. Perceived employability, entails a negotiated ordering between the graduate and the wider social and economic context (Tomlinson, 2012). It is therefore useful to capture the interplay between agentic and situational factors among graduates who, for the first time, are acting upon their perceived labor market potential to find a job and calibrating their expectations based on how their personal strengths are evaluated by gatekeepers to career opportunities and stack up against competitors.

In our aim to investigate career barriers in relation to perceived employability development among recent graduates, three aspects require more comment and explanation: heterogeneity in the perceptions of career barriers, a focus on graduates experiencing the early stage of their careers, and diversity in employability trajectories. To address these facets, we integrate insights from two widely used theories in career studies and organizational psychology: Social Cognitive Career Theory (SCCT) (Lent & Brown, 2019) and Conservation of Resources Theory (COR) (Hobfoll et al., 2018). Drawing on SCCT, we first discuss the role of perceived gender and ethnic barriers in shaping graduates' perceived employability. SCCT is particularly useful in explicating how educational and occupational choices are shaped, among others, by the experience of career barriers (Halbesleben et al., 2014; Lindley, 2005). While the focus on gender and ethnic career barriers has been extensively discussed in research drawing on SCCT (Brown & Segrist, 2016; Luzzo & McWhirter, 2001; McWhirter, 1997), the issue has been broadly neglected in research on perceived employability where these factors are more commonly used as controls. This is reflected in a recent meta-analysis by Harari et al. (2021) where issues of gender (and age) are briefly referred as personal circumstances influencing employability, and ethnicity is overlooked. We argue that time is ripe to give these specific barriers and personal circumstances more emphasis in employability research.

We use the hurdling metaphor to underscore the uneven nature of the playing field and emphasize that graduates embark on their careers identifying disparate obstacles to the development of perceived employability. A distinctive strength of our study lies in the comprehensive examination of these barriers. Rather than analyzing them separately, we explore their interplay by identifying barrier profiles, investigating the extent to which the perception of single versus multiple barriers imposes additional – and also potentially qualitatively different – hurdles on perceived employability development.

Second, we discuss and analyze differences in perceived employability at the transition from university to the labor market and any

changes over time and across profiles. This is an aspect where integrating insights from COR is particularly useful. SCCT offers a valuable framework to understand how the perception of career barriers can be associated with negative career outcomes (Lent & Brown, 2019). While the theory proposes the existence of a feedback loop between performance outcomes (e.g. skill development) and self-efficacy (Bandura, 2001), its discussion and empirical exploration in longitudinal career studies - and more notably, in the field of employability - has been scant. In contrast, COR has been extensively used in the literature to explain levels and changes in perceived employability over time (De Cuyper, Mäkikangas, et al., 2012; De Cuyper, Raeder, et al., 2012; Doden et al., 2024; Jabeen et al., 2022). Like SCCT, COR proposes a recursive model emphasizing how individuals can accrue or deplete valuable resources based on their situations and experiences (Halbesleben et al., 2014). It therefore provides a stronger, complementary, and also a more parsimonious framework for comprehending the dynamic process through which perceived employability may evolve over time among groups identifying varying hurdles to career development.

Finally, we focus on graduates transitioning to the labor market and experiencing the early stage of their careers and therefore capture a career period where perceived employability is arguably more malleable and subject to change. In so doing, we also put employability development in context and draw on contributions from the school to work transition and graduate employability literature (Blokker et al., 2023; Grosemans & De Cuyper, 2021; Tomlinson, 2017) to shed light on the specific challenges individuals encounter to developing their employability as they experience the labor market and how their perceptions change during this critical phase of their careers (Akkermans et al., 2023).

Our study extends employability research in two different ways. First, we contribute to the literature by discussing how the interplay between individual and contextual factors can influence perceived employability development among a cohort of UK graduates transitioning to the labor market. This is particularly relevant in a domain that has been criticized for being overly agentic (Akkermans et al., 2024). Employability research typically emphasises agency and assumes that the individual carries the main responsibility for developing and increasing their chances of obtaining and sustaining employment, for example in the form of continuous upskilling and lifelong learning. In contrast, the focus on gender and ethnic career barriers considers the interplay between individual and contextual factors. Career barriers capture the way individuals read the context as facilitating or hampering career attainment in light of their personal strengths and cultural capital. It is this sensemaking process that may induce diversity in perceived employability trajectories among recent graduates.

Second, we depart from more traditional variable-centred perspectives and adopt a person-centred approach (latent profile analysis) which is particularly useful to exploring how perceived employability develops among graduates in different career barriers profiles. Moreover, it allows us to contribute to the careers literature where barriers are usually explored with a focus on either sexism or racism (Kim & O'Brien, 2018) and align our analysis with calls to consider how the intersectionality between two or more minority categories potentially reflects positions of disadvantage that cannot be captured by each of the categories in isolation (Corlett & Mavin, 2014).

In concert, our time-, context- and diversity-sensitive account contributes to the literature by showing that the implicit and intuitively appealing assumption that employability can increase once graduates accumulate experience may be a reality for many, yet certainly not for all to the same extent, as subgroups perceiving a range of salient career hurdles can see their employability development hindered. Our paper has also important practical implications for employers seeking to manage high potential employees and higher education institutions seeking to improve the employability of their students.

The structure of this manuscript is as follows. We set out by an overview of the literature on career barriers in view of identifying potential relevant career barrier profiles. We then bring in the employability literature and finally connect career barrier profiles to employability development.

2. Theory and hypotheses development

2.1. The role of gender and ethnic barriers

We draw on SCCT to investigate diversity in perceived career hindrances, specifically focusing on gender and ethnicity barriers, and its impact on perceived employability. While the focus on career barriers is novel in employability research, their role in hindering attainment of desired career outcomes has been widely investigated, particularly in contributions drawing on SCCT (Lent et al., 2000). Initially developed by Lent et al. (1994), SCCT aims to provide a broad integrative framework to explain the interplay between individual agency and contextual factors in shaping careers (Lent & Brown, 2008; Lent & Brown, 2019). The theory proposes that the formation of educational and career interests and choices is embedded in the broad socio-economic environment which provides individuals with access to a varying range of learning opportunities, but also presents hurdles to career attainment. Career barriers, defined as "events or conditions, either within the person or in his or her environment, that make career progress difficult" (Swanson & Woitke, 1997, p. 437), undermine individuals beliefs about their strengths and abilities, including their perceived employability, as well as their motivation to succeed in specific occupational and career fields (Lindley, 2005). Barriers to career advancement are not solely confined to individual perceptions but are also socially constructed, serving as impediments that particular groups encounter in their career development (Gunz et al., 2007). As a result, they assume a pivotal role in shaping "the perceived opportunity structure within which career plans are developed and implemented" (Luzzo & McWhirter, 2001, p. 61).

While it is possible to identify a myriad of career barriers (McWhirter, 1997), the focus on gender and ethnicity is justified by three main reasons. First, important gender and ethnic gaps in career attainment persist in the graduate labor market, including in the UK, signalling significant disparities in perceived and experienced barriers to career and employability development. Evidence shows that ethnic minority graduates are significantly less satisfied with their careers when compared with white students, including in elite

Universities (Bermingham et al., 2020; Lessard-Phillips et al., 2018). In addition, women graduates report lower salaries than men across low, medium and high skilled jobs (HESA, 2023). This is all the more significant when we consider that gender and ethnicity are two of the most salient factors influencing identity, occupational aspirations, career opportunities and arguably, perceived employability (Jones et al., 2021; Watts et al., 2015).

The gender literature has extensively documented how over the last decades women have taken the majority of new jobs created in western economies, have higher occupational and career aspirations, feel more motivated to succeed in their studies and are also more likely to obtain secondary and higher education qualifications when compared with men (Schoon & Polek, 2011). Yet, due to prevailing social biases and stereotypes, women not only anticipate but also experience stronger barriers to career attainment than men (Joshi et al., 2022; Watts et al., 2015). In the context of work, women are often defined by their traditional roles as homemakers and caretakers which limits the development of their careers and employability (Harari et al., 2021). Moreover, research also shows that forms of organizational support partly designed to mitigate the gender gap, including flexible work practices, are often used to develop a narrative to justify and reproduce a gendered structure of opportunities that turns work–family conflict primarily into a women’s problem (Padavic et al., 2020).

Barriers associated with ethnicity are also a key factor hampering employability and career development. Ethnic minority groups are faced with and perceive stronger barriers to vocational choice and career attainment than members of the ethnic majority (McWhirter, 1997) and, partly as a result, remain over-represented in low status occupations (Jones et al., 2021). The race/ethnic gap in attainment can partly be explained by strong vocational and occupational schemata that develops over the years as children observe the types of jobs performed by their parents and others within their communities and internalise beliefs about a racial stratification of occupations. Brown and Segrist (2016), for instance, showed how internalized racism, signalling the acceptance by minority populations of the negative social beliefs and stereotypes about their group, hampers the career aspirations of African American workers. Overall, the evidence suggests that perceiving and/or encountering more pronounced barriers to career development based on one’s gender and ethnicity can shape the landscape of career opportunities and, arguably, perceived employability.

Second, gender and ethnic barriers reflect not only individual differences in beliefs about the strength and salience of career hindrances, capturing the extent to which group affiliation is seen as a core defining element of one’s identity; but also indirectly capture the way these roles are constructed and experienced in the broader context of the family and society, reflecting beliefs about appropriate roles for individuals in different categories (e.g. traditional vs egalitarian gender roles) (Joshi et al., 2022). While it is not our intention to muddy the waters between different levels of analysis and neglect the useful contributions to classifying barriers according to their level (e.g. individual, social) and nature (e.g. internal vs external), we draw on Swanson and Woitke (1997) who situate barriers within the person but also in their environment. This means that we view gender and ethnic barriers as situated at the interplay between intra-personal (what people bring to and want out of work and career) and contextual factors (what they deem possible given their specific circumstances). In other words, the individual reads the context and then appraises this context as facilitating or hampering career and employability development. Our perspective is aligned with SCCT where sociostructural factors are deemed to influence psychological mechanisms and behaviors. In turn, individuals are not seen as merely reacting to social pressures but also as producers of the social system through their agency and behavior (Bandura, 2001). The interplay means that intrapersonal and contextual features are not separate entities, but instead are intertwined.

Our perspective is also aligned with contributions from the literature on graduate employability where career (and employability) trajectories are seen to reflect dynamics of social reproduction and social positioning (Holmes, 2013; Okay-Somerville & Scholarios, 2017). While graduates possess a similar level of skills, competences and credentials as they transition to the labor market, those with higher social and cultural capital can more easily access the most coveted opportunities in the labor market. As Holmes observes, the “rules of the game” are already set so that students from privileged backgrounds are able to gain advantage in the system” (2013, p. 547).

Thirdly, the focus on gender and ethnic barriers is justified by their general rather than specific nature (Lent et al., 2000). General barriers can impact a wide range of aspects related to career progress whereas specific barriers affect some, though not all, aspects of one’s career. For example, gender and ethnic barriers can affect access to desired jobs throughout one’s entire career and are therefore appropriate to capture trends in employability at the transition from university to the labor market and beyond. Viewing gender and ethnicity as general barriers acknowledges that they are socially constructed from childhood and their role in shaping self-efficacy beliefs, outcome expectations and educational and career choices over time. In contrast, specific barriers, such as barriers to finding the first job, impact individuals only at this very specific stage in their lives.

Having justified the focus on gender and ethnic career barriers and discussed their characteristics we next discuss the barriers profiles expected to emerge from our analysis and their association with perceived employability. While the exploration of latent profiles and their distal and proximal outcomes is broadly an exploratory approach, we tentatively propose a set of hypotheses to align our study with the extant theory and evidence.

2.2. Career barriers profiles

Internalized representations of gender and ethnic roles can influence career development over and above sex and race/ethnicity. To illustrate, Eddleston and Powell (2008) showed that individuals’ preference for status (e.g. prestige, high earnings) or socioemotional career outcomes (e.g. working as part of a team, working with friendly people) was associated with the way they related to prototypical notions of masculinity (e.g. autonomy, achievement) and femininity (e.g. deference, nurturance) over and above their sex. The way gender and ethnicity roles are socially constructed and can influence employability development is captured by the notions of gender and ethnic barriers. In contrast with most research which focuses on either gender or ethnicity (Kim & O’Brien, 2018), we consider

their interplay and focus on career barrier profiles. This takes into account that people relate to different groups and identities, some of which can be privileged (e.g. ethnic majority, men) and others are more socially disadvantaged (e.g. ethnic minority, women). Moreover, it acknowledges that multiple identities may not be looked at as separate dimensions but may instead constitute unique experiences (Corlett & Mavin, 2014).

Theoretically, we can construct a 2 × 2 matrix and expect to find four profiles (see Fig. 1) capturing the way perceptions of gender and ethnic career barriers can reside within individuals. The first profile is comprised of individuals who perceive strong gender and ethnic barriers. Among these people the interplay between gender and ethnicity can interact in such a way that its expected impact on career development can not only be more severe but also potentially distinctive when compared with the effect of each category in isolation. This is explained by Crenshaw (1989) in her influential discussion of black women’s experience of discrimination. Crenshaw explains how black women experience double discrimination as black and as women (racism + sexism) in ways that represent a distinctive disadvantage that cannot be understood simply by considering the experiences of sexism they can share with white women and those of racism often felt by black men. This unique position is also captured by the invisibility hypothesis explaining how people with membership in multiple socially disadvantaged categories are not viewed as the prototypical members of these categories and are often rendered invisible as a result (de Leon & Rosette, 2022). We label this profile ‘high barriers’.

In contrast, the second profile is characterised by low perceived gender and ethnic barriers. Notwithstanding the evidence suggesting that members of more privileged groups (e.g. men and whites) can perceive threats to their position, particularly in pro-diversity environments (Dover et al., 2016), and even develop negative attitudes towards organizational diversity and inclusion policies (Leslie, 2019), we propose that individuals in this profile are likely to express optimism that their career prospects will not be significantly hindered by the social representations associated with their gender and ethnic groups. We label this profile ‘low barriers’.

Finally, we expect two additional profiles to emerge, each of them characterised by perceived social disadvantage associated with one barrier and privilege with the other. The third profile, labelled ‘dominant gender barriers’, is comprised of individuals who feel that their gender - but not their ethnicity – is likely to hinder their career prospects. The nature of this profile is partly captured by literature illustrating how the stereotypes associated with women from different ethnic backgrounds impact their chances in the labor market by strengthening or altering the experience of the traditional disadvantages associated with gender. For instance, research shows that in comparison with white women, black women are often viewed as rude, hostile, angry and incompetent; and Asian women are viewed as competent but passive and submissive (Rosette et al., 2018). Finally, the fourth profile, labelled ‘dominant ethnic barriers’, is characterised by perception of high ethnic barriers and low gender barriers. The core of this profile is, for instance, encapsulated by research indicating that while men, in general, may have access to better employment opportunities than women, this advantage is not uniformly experienced. Studies reveal, for instance, that when compared to white men, black and Middle Eastern men encounter stronger barriers to entering male-dominated professions due to the perception that their stereotypical masculinity is viewed as threatening (Di Stasio & Larsen, 2020).

Hypothesis 1. Four career barrier profiles will be identified among recent graduates: high barriers, low barriers, dominant gender barriers and dominant ethnic barriers.

2.3. The link between career barrier profiles and perceived employability

As signaled in the introduction of our paper, integrating contributions from SCCT and COR offers valuable insights to discussing how employability develops among groups of graduates perceiving varying barriers to career development. To discuss differences in perceived employability and any changes over time across profiles we need to discuss both the starting position and the expected change (Grosemans & De Cuyper, 2021). The starting position refers to the level of perceived employability at graduation, that is, how

Low Gender Barriers High	Dominant Gender Barriers	High Barriers
	Low Barriers	Dominant Ethnic Barriers
	Low Ethnic Barriers	High

Fig. 1. Career Barrier Profiles.

confident individuals feel that they will obtain a (good) job after entering the labor market. Changes in perceived employability reflect the trajectory in perceived employability development and whether this is positive, negative, or remains relatively unchanged (i.e. the change factor). The main interest is a comparison between the two extreme profiles – the high vs low barriers - as they represent groups of individuals with opposite perspectives on career hurdles.

A key tenet of COR theory is that individuals strive to obtain, sustain, and increase resources they consider important (Hobfoll et al., 2018). The notion of employability adopted here fits with the view of resources in COR as it is “tied to the person, his or her resiliency, and feelings of being able to control and impact upon the environment” (De Cuyper, Mäkikangas, et al., 2012, p. 771). To manage their employability, people need resources to invest and the motivation to acquire new resources (e.g. skills, abilities, networks) that can be subsequently used to further their chances in the labor market (Jabeen et al., 2022). Career barriers influence graduates’ perceptions of their personal strengths and chances of succeeding in their career field and, as a result, can potentially threaten their ability to acquire and leverage important resources affecting their perceived employability including skills, networking and job-seeking behaviors.

While all recent graduates have built human capital through their education and it may seem as if they have a similar starting point at the transition to the labor market, resources are actually not distributed equally. The graduate employability literature has showed that graduates with more valuable resources to start with, including higher social and cultural capital, have a more positive outlook on their labor market potential (Holmes, 2013). In contrast, those who perceive stronger career barriers are more likely to have lower resources to start with and anticipate fewer labor market opportunities. This has been reported in the careers literature showing that individuals in socially disadvantaged groups perceive stronger barriers to career attainment (Lipshits-Braziler & Tatar, 2012) and lower levels of employability (Delva et al., 2021; Fugate et al., 2021). We therefore expect graduates in the low barriers profile to have higher perceived employability at graduation when compared with those in the high barriers profile.

COR theory also offers valuable cues to understanding the process through which perceived barriers can impact perceived employability development over time. COR proposes that resources travel together (in a caravan) and that the acquisition of resources not only protects individuals against resource loss but contributes to subsequent resource gains (Hobfoll et al., 2018). The idea that perceived employability is malleable and develops over time is not new. In this respect Kirves et al. (2014) and Mäkikangas et al. (2013) have made an important contribution by showing that while perceived employability is stable for the majority of workers – with groups of individuals perceiving stable high vs low levels of employability – there are also groups of workers reporting positive and negative changes in perceived employability over time.

Furthermore, within the graduate employability literature there have been calls to look at employability as a process wherein graduates develop their professional identity over time and in close interaction with other competitors and gatekeepers to career opportunities (Holmes, 2013). These gatekeepers, through their decisions - such as offering a career opportunity or choosing not to hire an individual - play a crucial role in either reinforcing existing career prospects or prompting a reevaluation and renegotiation of career trajectories and identity. However, the view of perceived employability as a process has seldom been tested and, more importantly, the few studies modelling change and their correlates have found that stability is the norm (Kirves et al., 2014; Mäkikangas et al., 2013). To illustrate, in a two-wave study among Swedish employees with one-year time lag, Berntson et al. (2008) reported a rank-order stability coefficient of 0.83 for perceived employability. A plausible reason is that perceived employability is partly the outcome of a range of factors that are difficult to change such as individual dispositions, vocational and career identity, education and social capital (Mäkikangas et al., 2013; Wille et al., 2013). Equally important is considering that people are unlikely to regularly evaluate their chances in the labor market, unless they are prompted by a situation to do so (e.g. a job loss) or decide to make a career move. The transition from education to the labor market may well provide such a context. This is suggested by Grosemans and colleagues who showed not only that change in competences associated with employability in the last year before graduation when students *had* to prepare for the labor market was quite significant (Grosemans & De Cuyper, 2021) but also mapped out patterns of change and heterogeneity in employability trajectories among groups of graduates in Belgium (Grosemans et al., 2023).

We build on these contributions to propose that individuals in the low barriers profile can more easily continue harnessing resources after transitioning to the labor market and, as a result, see their perceived employability increase as a consequence of a resource gain cycle. This finds support in research showing that individuals who see themselves as highly employable are more likely to develop skills and broaden their networks (Clarke, 2009), seek new career opportunities (Lu et al., 2016), and obtain a promotion (Van der Heijden et al., 2009). In contrast, a decline in perceived employability is likely to be experienced by individuals in the high barriers profile who not only have a less favorable point of departure but should also struggle to acquire additional resources to sustain their employability. Their main focus is on protecting their current resources (and avoiding additional resource loss), for instance by securing a job regardless of its potential fit with their qualifications and interests, rather than increasing or optimizing their resources. COR theory assumes that such a defensive mode ultimately results in further resource loss (Hobfoll et al., 2018). In addition, it highlights that resource loss is more psychologically impactful for individuals than resource gain (Halbesleben et al., 2014). The loss of resources associated with the perception of strong career barriers has been reported in the literature. For instance, evidence indicates that individuals perceiving stronger career barriers also report lower career aspirations (Watts et al., 2015), struggle to develop skills and knowledge and are more undecided about their future occupation (Toyokawa & DeWald, 2020). This should ultimately have a negative impact on their perceived employability over time.

Finally, as a corollary from the expected differences and trajectories between the two extreme career barrier profiles, the employability starting point and trajectory of graduates in the two profiles reporting one salient barrier (gender or ethnic) are likely to fall in-between the high and the low barrier profiles. The perception of one barrier is likely to have a less detrimental impact on perceived employability and its development when compared with the group perceiving two strong barriers. Individuals in the dominant gender and dominant ethnic barriers profiles perhaps do not have to invest all their resources in protecting the status quo and might invest in resource acquisition as well. It is not clear whether their respective potential social disadvantages will allow them to

gather sufficient resources to sustain their employability at a career stage where individuals naturally have low levels of career resources. Finally, current knowledge does not inform a clear expectation regarding a significant difference in perceived employability between the two profiles where individuals perceive one salient barrier, in other words, whether gender or ethnicity matter more. We therefore propose two hypotheses and one research question to inform our analysis:

H2a. Individuals in the low barriers profile will report a higher perceived employability starting position than individuals in the other profiles and will report a positive perceived employability change.

H2b. Individuals in the high barriers profile will report a lower perceived employability starting position than individuals in the other profiles and will report a negative perceived employability change.

RQ1. Are there significant differences in perceived employability starting position and change between the dominant gender and the dominant ethnic barriers profiles?

3. Method

3.1. Sample and procedure

We followed a cohort of undergraduate students at a London-based university. Invitations to participate in the study and to complete an online survey were sent to 3398 final year undergraduate students across faculties in March 2015, shortly before they graduated. Respondents were invited to complete three additional yearly follow-up questionnaires. We use the first and the third waves of the study in our analysis for three main reasons. First, in the first follow-up approximately half the participants reported not being employed (e.g. pursuing post-graduate education) which hinders our analysis of the extent to which career barriers influence perceived employability as individuals experience work. Second, any changes in employability require time and a two year time lag offers some insight as to how employability can be shaped among individuals perceiving different career hindrances. Moreover, at wave three (two years after graduation) all participants were working. Finally, we had very high attrition rates in our final wave and its use is limited.

The first wave of the study was completed by 842 students (24.78 %). Of these, 411 were men (48.81 %) and 385 were women (45.72 %); 46 graduates (5.46 %) did not provide information about their sex. Regarding ethnicity, most individuals indicated to be white ($n = 515$; 61.16 %), and 33.49 % reported to be non-white ($n = 282$); 45 graduates (5.34 %) did not provide information about their ethnicity. The mean age at time 1 was 20.47 years old ($SD = 11.47$). In the third wave of our study 61 % of participants were men and 76 % were white indicating that we had higher attrition rates among women and ethnic minority graduates. The scales used in the second wave of our analysis were completed by 351 respondents (41.69 %).

3.2. Measures

Validated measures of all constructs were used. Responses to all items were obtained using a five-point Likert scale ranging from "1 = strongly disagree" to "5 = strongly agree".

Demographic variables. Information was collected about participants' sex (0 = men; 1 = women) and ethnicity (0 = White; 1 = Non-White).

Career-related gender barriers was measured with 4 items from [Luzzo and McWhirter \(2001\)](#) at time 1. A sample item is "In my future career I will probably experience negative comments about my sex (such as insults or rude jokes)". Cronbach's α equalled 0.907.

Career-related ethnic barriers was measured with 4 items from [Luzzo & McWhirter, 2001](#) at time 1. A sample item is "In my future career I will probably experience negative comments about my racial/ethnic background (such as insults or rude jokes)". Cronbach's α equalled 0.923.

Perceived employability was measured at times 1 and 2, using the 4 items that were used in the study by [De Cuyper, Mäkikangas, et al. \(2012\)](#) based on instruments from [Berntson and Marklund \(2007\)](#) and [Griffeth et al. \(2005\)](#). Sample items are "My qualifications and experience are in demand in the labor market" and "It would not be very difficult for me to get a job in a good organization". Cronbach's α was 0.818 at time 1 and 0.911 at time 2.

4. Analyses

4.1. Preliminary analysis

Mplus version 8.1 was used with the full information maximum likelihood estimator for all analyses ([Finney & DiStefano, 2006](#)), to address missing data and rely on the full sample of participants ($N = 842$). Confirmatory factor analyses (CFA) were conducted at time 1 (T1) and time 2 (T2) with the following fit indices: Comparative fit index ($CFI > 0.95$), the root mean square error of approximation ($RMSEA < 0.08$), and the standardized root mean square residual ($SRMR < 0.06$). The first CFA, modelling both types of career barriers and perceived employability at T1, yielded appropriate fit indices ($CFI = 0.982$; $RMSEA = 0.051$; $SRMR = 0.029$). The second CFA, including perceived employability at T2, yielded appropriate fit indices as well ($CFI = 0.997$; $RMSEA = 0.066$; $SRMR = 0.009$). Longitudinal measurement invariance was tested for perceived employability, which is particularly important in the context of the school-to-work transition: It allows to investigate whether the scale is interpreted similarly in two contexts and whether the instrument

can be used to assess changes over time. Invariance was assumed when $\Delta CFI < 0.01$. Partial scalar invariance was achieved after releasing the constraints for the intercept of the fourth item. Results of the longitudinal measurement invariance are presented in Table 1. As we achieved partial scalar invariance, the instrument could be used to detect changes over time. Finally, multivariate outliers were assessed using the Mahalanobis distance for career barriers, in which a p -value $< .001$ was used (Spurk et al., 2020). No outliers were detected, hence, no cases were excluded from the analysis.

4.2. Identifying profiles of career barriers

To identify profiles of career barriers (Hypothesis 1), a latent profile analysis (LPA) was used (Morin et al., 2016), in which homogeneous subgroups of participants (i.e., latent profiles) are detected based distinct configurations on the indicators (here: gender and ethnic career barriers). LPA considers profile membership as “an unobserved categorical variable, where its value indicates which profile an individual belongs to with a certain degree of probability” (Spurk et al., 2020, p. 2). Latent profile solutions with one to eight profiles were estimated in which the means of career-related gender barriers and the means of career-related ethnic barriers were allowed to vary across profiles. The optimal solution was selected based on a number of statistical tests, being Akaike Information Criterion (AIC), Bayesian Information Criterion (BIC), Consistent AIC (CAIC), sample-size adjusted BIC (SABIC), Lo-Mendell-Rubin adjusted likelihood ratio test (LMR), and Bootstrap Likelihood Ratio test (BLRT). For AIC, BIC, CAIC, and SABIC, lower values suggest a model that fits the data better. Regarding the LMR and BLRT, a significant p -value points to a better fitting solution as compared to the solution with one less profile. Models were estimated using 5000 random sets of starting values with 100 iterations. The 200 best solutions were retained for final stage optimization (Morin et al., 2016). Increasing the default number of random starts is recommended to avoid local solutions (Spurk et al., 2020). For this reason, the best log-likelihood value were replicated in two final-stage solutions (Spurk et al., 2020). Differences in means for gender and ethnic barriers between profiles were compared using the multivariate delta method (Kam et al., 2016).

4.3. Assessing perceived employability change

In a subsequent step, changes in perceived employability were assessed using the three-step procedure (Asparouhov & Muthén, 2014). Using this procedure allows to take classification error of the LPA into account when assessing differences between profiles. To do so, a latent change score model (Kam et al., 2016) was used, which models the level of perceived employability and a change factor (pointing towards an increase, a decrease, or a stable factor) in a structural equation modelling framework. More specifically, a latent change score model models change of the latent variables rather than using the classical difference scores which comes with multiple methodological issues (Matusik et al., 2021). By modelling the level and change factor of perceived employability in the three-step procedure, we were able to estimate an average starting point and change over time for each of the identified career barrier-profiles. Finally, levels and change factors of perceived employability across profiles were compared using the multivariate delta method, to examine whether differences were statistically meaningful (Hypotheses 2a and 2b; Kam et al., 2016).

5. Results

Descriptive statistics and correlations can be found in Table 2.

5.1. Career barrier profiles

To identify career barrier profiles, a LPA was conducted. The highest log-likelihood was replicated, implying that the results are not due to local solutions. Results from the LPA can be found in Table 3. All fit indices (AIC, BIC, CAIC, SABIC) continued to decrease up to eight profiles. When no minimal point is reached, it is recommended to investigate the gains associated with additional profiles (Morin et al., 2016). The decrease started to level off from the four- to five-profile solution onwards. Leading us to select either the four- or five-profile solution. The BLRT was significant for all profile solutions. However, the LRT was significant up to the four-profile solution and for the six-profile solution. The entropy was acceptable for all solutions. Building on the strength of the AIC-, BIC-, CAIC-, and SABIC-

Table 1
Longitudinal measurement invariance of perceived employability (T1 and T2).

Model	Model				Model comparison			
	χ^2 (df)	CFI	RMSEA	SRMR		$\Delta\chi^2$ (Δdf)	p	ΔCFI
Model 1 (configural invariance)	52.424 (15)	0.983	0.055 [0.039; 0.072]	0.044				
Model 2 (equal loadings)	60.095 (18)	0.981	0.053 [0.039; 0.069]	0.051	Model 1 vs. Model 2 (metric invariance)	7.671 (3)	0.053	-0.002
Model 3a (+ equal intercepts)	93.929 (20)	0.966	0.067 [0.054; 0.081]	0.060	Model 2 vs. Model 3 (scalar invariance)	33.834 (2)	< 0.001	-0.015
Model 3b (one intercept not equal)	66.352 (19)	0.978	0.055 [0.041; 0.070]	0.052	Model 2 vs. Model 3b (partial scalar invariance)	6.257 (1)	0.012	-0.004

Table 2
Descriptive statistics and correlations.

	1	2	3	4	5	6	7
1. CB – gender							
2. CB – ethnic	0.667***						
3. Perceived employability T1	0.079*	0.088*					
4. Perceived employability T2	-0.090	-0.109*	0.492***				
5. Gender (0 = Men)	0.009	-0.197***	-0.109**	-0.025			
6. Ethnicity 0 = White)	-0.113**	0.133***	-0.071*	0.051	0.108**		
7. Family income	0.175***	0.095**	0.153***	0.025	-0.149***	-0.267***	
Mean	2.897	2.805	3.187	2.784	45.724 % (women)	33.492 % (non-white)	4.770
Standard Deviation	1.023	1.089	0.798	1.045	-	-	2.753

Note. CB = career barriers.

* $p < .05$.

** $p < .01$.

*** $p < .001$.

Table 3
Fit Indices from the Latent Profile Analyses.

	LL	#fp	AIC	BIC	CAIC	SABIC	Entropy	LMR	BLRT
One profile	-2479.460	4	4966.920	4985.863	4989.863	4973.160	-	-	-
Two profiles	-2200.032	7	4414.064	4447.215	4454.215	4424.985	0.846	< 0.001	< 0.001
Three profiles	-2157.394	10	4334.787	4382.145	4392.145	4350.388	0.879	< 0.001	< 0.001
Four profiles	-2115.864	13	4257.727	4319.293	4332.293	4278.009	0.769	< 0.001	< 0.001
Five profiles	-2064.009	16	4160.017	4235.790	4251.790	4184.979	0.802	0.496	< 0.001
Six profiles	-2024.204	19	4086.407	4176.387	4195.387	4116.049	0.898	< 0.001	< 0.001
Seven profiles	-1,994.775	22	4033.549	4137.736	4159.736	4067.871	0.874	0.068	< 0.001
Eight profiles	-1971.019	25	3992.038	4110.433	4135.433	4031.040	0.895	0.445	< 0.001

Note. LL = loglikelihood; #fp = number of free parameters.

decrease and in combination with the significant LRT test, we decided to continue with the four-profile solution.

The four-profile solution is presented in Fig. 1. Profile 1 was characterised by low scores for both career-related gender barriers ($M = 1.666$; $SE = 0.048$) and career-related ethnic barriers ($M = 1.590$; $SE = 0.048$). The profile consisted of 250 respondents (29.691 %). This meets our expectations for the low barriers profile. Profile 2 is composed of individuals who anticipate high career-related gender ($M = 3.762$; $SE = 0.055$) and ethnic barriers ($M = 3.819$; $SE = 0.057$) and meets our expectations for the high barriers profile. This was also the largest profile in our study ($n = 316$; 37.530 %). Profile 3 had below sample average levels of gender barriers ($M = 2.096$; $SE = 0.101$) and above sample average levels of ethnic barriers ($M = 3.062$; $SE = 0.096$). This profile comprised 223 respondents (26.485 %) and is close to our expectations for the dominant ethnic barriers profile. Finally, individuals in the fourth profile reported high career-related gender barriers ($M = 3.782$; $SE = 0.110$) and low career-related ethnic barriers ($M = 1.641$; $SE = 0.082$). This is our smallest profile ($n = 53$; 6.295 %) and meets our expectations for the dominant gender barriers profile. Means were compared for each pair of profiles. Gender barriers in profile 2 and profile 4 were not statistically different. Ethnic barriers in profile 1 and profile 4 were not statistically different either. All other differences between profiles were meaningful, based on the multivariate delta method. This provides support for Hypothesis 1.

Before testing hypothesis 2 we aimed at understanding the characteristics of respondents in each of the profiles. A multinomial regression was conducted in which sex and ethnicity were included as predictors of profile membership. Odds Ratios are presented in Table 4. Regarding sex, we found that participants in the high barriers profile were about 30 % more likely to be women in comparison with low barriers profile. As for ethnicity, non-white students were (about 70 %) more likely to be member of the dominant ethnic

Table 4
Results from the Multinomial Regression with Demographic Variables as Predictors of Profile Membership.

	Low Barriers vs High Barriers	Low Barriers vs D. Ethnic B.	Low Barriers vs D. Gender B.	High Barriers vs D. Ethnic B.	High Barriers vs D. Gender B.	D. Ethnic B. vs D. Gender B.
	OR (SE)	OR (SE)	OR (SE)	OR (SE)	OR (SE)	OR (SE)
Gender (0 = Men)	1.708* (0.361)	0.949 (0.250)	-	0.556 (0.169)	-	-
Ethnicity (0 = White)	1.188 (0.287)	0.336*** (0.094)	25.925* (42.338)	0.308*** (0.093)	21.818 (35.662)	70.792* (116.518)

Note. Gender could not be compared for Profile 4, as the variance in gender was too low in this profile. OR = Odds Ratio.

* $p < .05$.

*** $p < .001$.

career barriers profile as compared to the low barriers profile and the high barriers profile.

5.2. Change in perceived employability across career barriers profiles

Finally, perceived employability changes were modelled in each of the profiles. For each profile, the level of perceived employability (i.e., the starting point just before graduation) and the change factor (i.e., demonstrating whether perceived employability increased, decreased, or remained stable) were modelled. Results are presented in Fig. 2 (mean-centred indicators) and in Table 5. Levels and change factors were compared using the multivariate delta method. Regarding the starting levels of perceived employability, we found that the highest perceived employability was reported by individuals in the high barriers profile ($I = 3.427$; $SE = 0.056$). The lowest initial level of perceived employability was reported by graduates in the dominant ethnic barriers profile ($I = 2.858$; $SE = 0.066$). Medium levels of employability were reported by the two other profiles (i.e., low barriers and dominant gender barriers) with a level of 3.235 ($SE = 0.059$) and 3.105 ($SE = 0.096$) respectively, which were not statistically different (Fig. 3).

Regarding change in perceived employability, individuals in the dominant ethnic barriers and the high barriers profiles experienced a decrease of perceived employability during the first two years of their careers. The dominant ethnic barriers had a change factor of -0.153 ($SE = 0.061$), implying that the scores of perceived employability decreased 0.153 on the five-point Likert scale per year. The high barriers profile reported a change factor of -0.356 ($SE = 0.039$), suggesting a decrease of 0.356 per year. This decrease was steeper than the decrease in the dominant ethnic barriers profile ($p = .014$). The two other profiles – the low barriers and the dominant gender barriers - demonstrated a stable change factor, implying that perceived employability did not change over time.

On the whole, our results are complex. Our expectations in H2a and H2b on starting positions were not confirmed with individuals in the high barrier profiles showing more optimism about their chances in the labor market at the start relative to all other profiles. However, individuals in this profile experienced a sharp decline in perceived employability after transitioning to the labor market, which we anticipated in H2b. Finally, while we did not confirm a positive change profile factor in the low barriers profile (H2a), this is the profile where perceived employability is higher two years after the transition to the labor market, even if not significantly different from the dominant gender barriers profile. In summary, our expectations on employability starting position were largely not supported but we did find partial evidence for our expectation on employability trajectories.

6. Discussion

Our aim in this paper is to contribute to understanding the role of career barriers as a key factor influencing the development of graduate perceived employability. A distinctive contribution of our study is to adopt a person-centred approach to capture heterogeneity in the way individuals evaluate their career prospects and, more specifically, identify sub-groups in the population perceiving varying hurdles to 'keep on track' with developing and sustaining their perceived employability. Two key issues have been discussed and explored empirically among a sample of UK graduates surveyed before and two years after completing their degree.

First, we discussed and analysed the interplay between perceived gender and ethnic career barriers and their impact on graduates' perceived employability. In line with our expectations, four career barrier profiles emerged from our analysis ranging from a perception of weak gender and/or ethnic career barriers to the anticipation of multiple career hurdles. It is important to note that approximately 70 % of graduates felt that their career prospects would likely be significantly hindered by their gender and/or ethnicity with 38 % anticipating both barriers as salient. While all graduates can develop their human capital at university, the broad social and economic landscape in which careers are embedded constitutes an uneven playing field allowing some groups of individuals to form a positive evaluation of their chances of obtaining a good job and developing their employability and offering others a more pessimistic perspective about their potential in the labor market (Okay-Somerville & Scholarios, 2017). Our findings extend insights from the literature on graduate employability and the transition from education to the labor market, particularly highlighting the influence of contextual factors, such as social class, on the disparities in employability and career advancement among different groups of

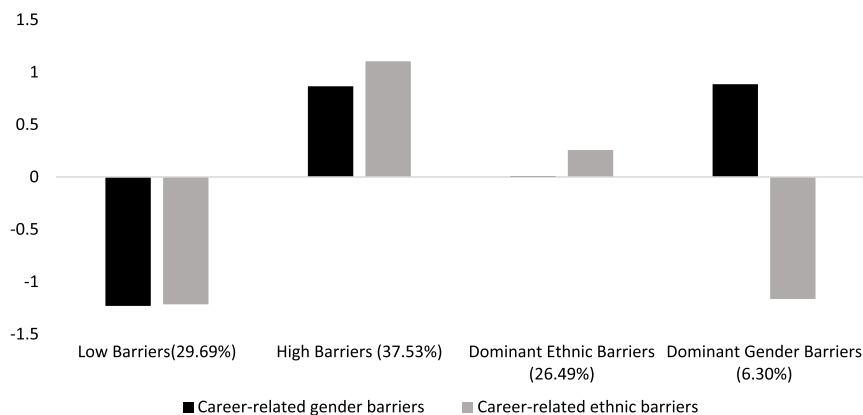


Fig. 2. Four-profile Solution.

Table 5
Means and 95 % Confidence Intervals of Level and Change of Perceived Employability in the Different Profiles.

	Profile 1: Low Barriers	Profile 2: High Barriers	Profile 3: Dominant Ethnic Barriers	Profile 4: Dominant Gender Barriers	Statistical significance
	<i>M [CI]</i>	<i>M [CI]</i>	<i>M [CI]</i>	<i>M [CI]</i>	
Level	3.235*** [3.119; 3.350]	3.427*** [3.318; 3.537]	2.858*** [2.728; 2.987]	3.105*** [2.917; 3.292]	3 < 1 = 4 < 2
Change	0.014 [-0.111; 0.140]	-0.356*** [-0.433; -0.278]	-0.153* [-0.273; -0.034]	0.007 [-0.153; 0.168]	2 < 3

Note. Statistical significance was assessed based on the multivariate delta method.

* $p < .05$.

*** $p < .001$.

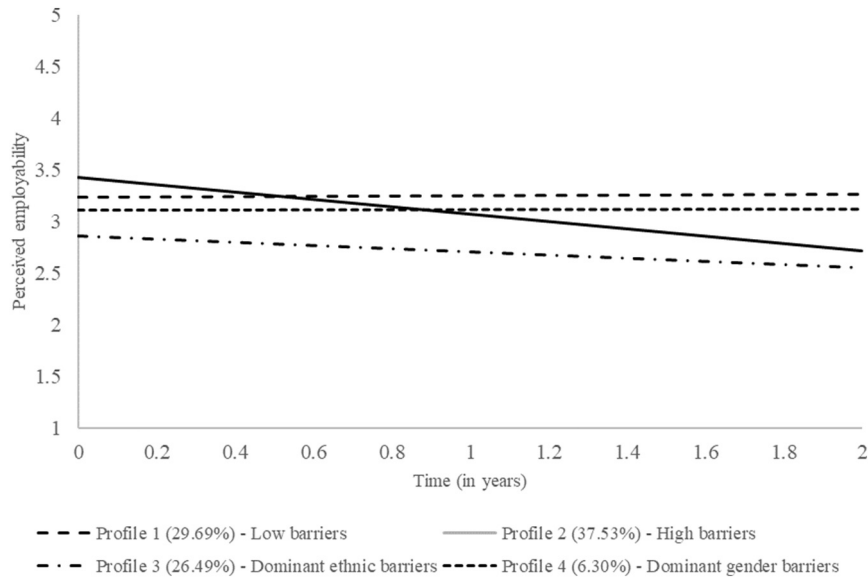


Fig. 3. Perceived Employability Level and Change Across Career Barrier Profiles.

graduates (Akkermans et al., 2023; Okay-Somerville et al., 2022), by bringing in career barriers which capture the interplay between context and agency. The focus on career barriers also adds to the employability literature, which has been criticized for being overly agentic (Akkermans et al., 2024). As such, our study highlights the limitations of separating context from agency to understand the dynamic nature of perceived employability.

Second, we investigated the development of perceived employability across individuals in different career barriers profiles and contributed to the general understanding of how employability develops over time. While most studies report that stability is pervasive (Kirves et al., 2014; Mäkikangas et al., 2013), our study indicates that change can be more common among individuals experiencing major career transitions and is in line with recent research exploring employability trajectories among graduates at an early career stage (Grosemans et al., 2023). Our analysis shows a decline in perceived employability among groups of graduates anticipating higher or, arguably, more salient barriers. The case of participants in the high barriers profile is particularly noteworthy, in the sense they were the most optimistic about their chances in the labor market at graduation but were also the ones who experienced the sharpest decline during the first two years of their career. Participants in the dominant ethnic barriers profile started with fairly low levels of perceived employability and experienced a subsequent decline. In response to our research question (RQ1), it is important to note that the two profiles experiencing a decline in perceived employability report strong ethnic barriers. This may suggest that, at least among this population, ethnicity is seen as a stronger barrier than gender. In contrast, participants in the low barriers and the dominant gender barriers profiles reported fairly average levels of perceived employability at the start of their careers and a stable trajectory. Ultimately, individuals in both these profiles were in a better position two years later as they had a medium start but stable perceived employability trajectories, while the high barriers and ethnic barrier profiles experienced quite steep declines in their perceived chances in the labor market.

6.1. Theoretical implications

Our findings have two important implications for (graduate) employability research. First, they highlight the importance of

investigating heterogeneity in perceived employability development. Our findings show that employability does not develop evenly across profiles and that general trends in perceived employability development can hide important differences between groups of workers and, in particular, the trajectories of smaller groups or minorities. Even if the limited information and labor market experience (other than an internship) suggests that the transition to work can constitute a career shock (Akkermans et al., 2018) for students near graduation, some groups of graduates were more successful in defending and maintaining their perceived employability while those experiencing more salient career constraints reported a significant decline.

Second, our study highlights the usefulness of exploring perceived employability as a process (Holmes, 2013), particularly among populations with limited experience in the labor market or those experiencing important career shocks or transitions (e.g. job loss). Our findings show some inconsistencies in perceived employability across groups at graduation and two years later. This is particularly the case of the high barriers and, to a lesser extent, the dominant ethnic barriers profiles. This suggests not only that some groups of graduates seem to over or underestimate their perceived employability at the start of their careers - both of which can be problematic - but also raises questions about the usefulness of a static approach to perceived employability and the extent to which perceived employability at graduation is a useful indicator of subsequent career success.

While apparently surprising, the case of the two profiles experiencing a negative change while starting at fairly high levels of perceived employability shows that individuals might overrate their chances before entering the labor market. There are several potential explanations for this. It is possible that individuals have learned and experienced that hard work pays off in education and generalize this towards the labor market where other rules apply; it is also possible that they lack personal resources and social capital to navigate the early stage of their careers. Our findings are also in line with the primacy of resource loss in COR suggesting that graduates starting their careers with low resources (oftentimes despite being confident in their ability to find a good job before graduating) can experience a more severe career shock and subsequent declines in their perceived employability as they become familiar with the demands of the labor market and employers' expectations (Halbesleben et al., 2014; Hobfoll et al., 2018).

At the other end of the spectrum, individuals in the low barriers and the dominant gender barriers profiles reported fairly modest levels of perceived employability and a stable trajectory. This can also be surprising. If perceived employability can be developed over time as individuals acquire resources and work experience, a relatively modest starting point would suggest that there is scope for improvement. However, we did not observe a positive trend in perceived employability, which could at least be expected in the low barriers profile. While we followed graduates for only two years, our findings suggest that we may need to reconsider the meaning of a gain cycle at an early career stage. We often assume that gain cycles are associated with resource gain but this is perhaps too ambitious for graduates navigating the very difficult transition to the labor market and learning to adjust to new roles and expectations (Grosemans & De Cuyper, 2021; Tomlinson, 2007). In this case, it is possible that maintaining perceived employability and protecting their resources may reflect positively on their future career, thereby predict a positive gain cycle in the long run.

6.2. Practical implications

Our study has implications for organizations and higher education providers. Organizations benefit greatly from staff employability and employers can have an important role in helping graduates protect and develop their employability. This is important as our study shows that perceived employability does not automatically increase over time which suggests that graduates need their employer's support in the early stages of their career. One suggestion based on other research would be to implement a range of human resource practices to promote work readiness and set realistic expectations about organizational life and the world of work (McCracken et al., 2016). Moreover, employers can facilitate the transition from university to the labor market by offering valuable work experiences. Research shows the value of internships, in particular, as a way of reducing information asymmetry between graduates and prospective employers and increasing hiring efficacy (Zhao & Liden, 2011) as well as a mechanism to foster graduate employability (Shoenfelt et al., 2013). Finally, organizations can invest in talent management programmes offering graduates support to develop important work and career-related resources (e.g. through mentoring and coaching) and assistance in managing some of the barriers to employability development, including those associated with gender and ethnicity as we have shown in our study. A mentoring program which, for instance, pairs young women with successful women may help mitigate the impact of gender barriers (Watts et al., 2015). And when providing recent graduates with career coaches, it is vital that coaches are not only aware of how career barriers shape employability and career trajectories but also help young workers to develop abilities that are effective in coping with barriers (Toyokawa & DeWald, 2020).

Our study also has implications for universities. Higher education institutions strive to assist students building employability skills (Clarke, 2018) and developing realistic, albeit positive, employability perceptions. However, such a discourse has been increasingly criticized for being overly agentic (Delva et al., 2021). Assumptions are primarily based on human capital theories, and thereby take insufficient account of labor market structures and how opportunities for particular individuals and groups are framed (McDonald et al., 2020). While universities may have constraints in directly enhancing their students' employability, they can play a pivotal role in raising awareness among future employers about the barriers that restrict career opportunities. Furthermore, universities can empower students by fostering attributes and strategies conducive to career success (Okay-Somerville & Scholarios, 2014). For instance, providing graduates with the assistance of cultural- and gender-sensitive career counselors can help them mitigate the impact of career barriers and facilitate their transition to the labor market.

6.3. Limitations and opportunities for future research

Finally, our study has three important limitations. First, data were collected in a single university in the UK which potentially raises

two issues. The first is that graduates in our sample are arguably not representative of the population. Additional research is needed drawing on a broader and more diverse sample of graduates across a range of universities to gain a deeper understanding of how graduates view their employability and how it develops over time. Moreover, it is important to recognize that examining perceived employability among graduates requires a nuanced understanding of the complex dynamics inherent in the school-to-work transition. This involves acknowledging, among others, the substantial variability in employment prospects among graduates in distinct subject areas (e.g., healthcare, STEM, arts and humanities), with different degree classifications, and across different types of universities (e.g., leading research universities, teaching universities). Future research could delve into the influence of these contextual factors on the employability of graduates more than it was possible in this study.

The second issue revolves around the specificities of the graduate labor market in the UK. While the adverse impact of career barriers on career development has been extensively studied and demonstrated across various countries and contexts (Ajibade Adisa et al., 2021; Creed et al., 2007; Lent & Brown, 2008), the characteristics of national labor markets may influence the severity with which barriers hinder careers. UK data from 2020/21 reveals that approximately 82 % of graduates were employed about 15 months after completing their degrees (HESA, 2023). In comparison, data from several European countries in 2022 (Eurostat, 2023) indicates diversity across countries: while over 90 % of recent graduates (within three years of entering the labor market) were employed in the Netherlands, Germany, and Malta, considerably lower employment rates were reported in countries such as Italy (65 %) and Greece (66 %). This is a contextual factor that needs to be considered in future research.

Second, we have followed graduates for two years. The two-year time lag between waves can be regarded as a notable strength, particularly when contrasted with the prevailing trend of cross-sectional studies or those with shorter intervals between waves. However, our research design introduces some caveats in interpreting our findings. The collection of the second wave of data, occurring two years post-graduation, may have overlooked the initial experience of graduates entering the labor market - a period that can be quite disruptive and impact (negatively or positively) graduates' perceived employability and subsequent decisions and career trajectories (Blokker et al., 2023). Simultaneously, it could be argued that the timing chosen for our second wave allows us to capture more nuanced and grounded perceptions of individuals' perceived employability. Finally, while our drop-out rate was reasonable, it is nevertheless concerning given that it was higher among women and ethnic minorities, suggesting not only a potential risk of self-selection but also that we may be underestimating how perceived employability develops among groups who potentially experience stronger barriers to career and employability development.

Future research can further investigate the process linking perceived employability before graduation with subsequent employability trajectories. Several avenues are worth pursuing. Firstly, it would be relevant to explore how graduates form their perceived employability and how factors such as the type and quality of their information sources (e.g. family, friends, mentors, careers counselors) and experiences while at university (e.g. doing an internship) can explain how favorably and how realistically individuals evaluate their chances in the labor market. Secondly, research can explore how the experience of positive or negative shocks at the transition from university to the labor market (e.g. finding a graduate level job vs entering the labor market in a low level occupation) can shape subsequent career decisions and perceived employability. In particular, additional longitudinal research is needed, following graduates for longer than was possible in this study, to investigate the existence of an employability scarring effect associated with experiencing a negative vs a stable or even a positive employability trajectory at an early career stage.

Finally, we focused on two barriers in our study. While our results are rich, it is important to delve deeper into the type, the correlates and the context in which career barriers are formed and experienced and the process through which they influence the structure of career opportunities. First, future research can explore the role of different types of barriers (e.g. social background), and their intersectional nature, in shaping perceived employability and career experiences. The choice for barriers could relate to the makeup of the sample. For instance, our sample was rather homogenous in terms of age and education, but these could be relevant barriers for individuals with more work experience or working in different job types. In addition, even if perceived barriers such as the ones explored here have been extensively studied in the literature (Luzzo & McWhirter, 2001), the focus on internalized barriers is not without limitations. In particular, it is important to also consider the impact of objective barriers on career development. This encompasses factors such as the unemployment rate and overall economic conditions, which significantly influence employability and the landscape of career opportunities.

Second, the literature on career barriers often assumes, rather than tests, the association between barriers and career/work-related outcomes. Our study illustrated how perceived gender and ethnic barriers can lead to important differences and change in perceived employability across groups of graduates transitioning to the labor market. Future research can further explore the processes through which the experience of career hurdles favors cycles of resource gain or loss (e.g. human and social capital) leading not only to significant individual and group differences in subjective and objective career outcomes (e.g. job offers, career satisfaction, career progression, salary) but also in perceived labor market potential, opportunities and career trajectories.

Lastly, it would be important to explore how the valence (positive vs negative), salience (important vs unimportant) and strength (permeable vs impermeable) of career barriers is contingent on individual and contextual factors. For instance, regarding identity-related barriers, such as the ones examined here, researchers can focus on how factors like gender and ethnic identity influence the experience of barriers. Research can also investigate how important changes in the career landscape influence the impact of barriers on individuals and groups of workers. To illustrate, research shows how recent changes in the work environment stemming, among others, from a significant alteration of work patterns in the aftermath of the covid-19 pandemic (e.g. the rise of teleworking) had a disproportionate impact on women, with black and Hispanic women experiencing more significant challenges compared to their white counterparts, as well as non-white men (Gezici & Ozay, 2020; Qian & Hu, 2021).

7. Conclusion

In all, our study is one of the first to provide a time-, context- and diversity sensitive approach to showing heterogeneity in how perceived employability develops as graduates transition to the labor market. We showed how important perceived career barriers can reside within individuals in a range of combinations and impose hurdles to keep on the employability track at an early career stage. Our results show that individuals perceiving lower hurdles (the low barriers profile) are progressing in stable perceived employability trajectories. In contrast, those perceiving multiple, or more salient, career hurdles show negative perceived employability trajectories. Our study paves the way for additional research exploring how a broad and more diverse range of barriers influence employability perceptions and trajectories as well as factors at the individual, organizational and contextual levels influencing their impact on employability and career development.

CRedit authorship contribution statement

Ricardo Rodrigues: Writing – review & editing, Writing – original draft, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Data curation, Conceptualization. **Jasmijn van Harten:** Writing – review & editing, Writing – original draft, Conceptualization. **Nele De Cuyper:** Writing – review & editing, Writing – original draft, Conceptualization. **Ilke Grosemans:** Writing – review & editing, Writing – original draft, Visualization, Formal analysis, Conceptualization. **Christina Butler:** Resources, Project administration, Methodology, Investigation, Data curation.

Declaration of competing interest

The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.

Data availability

Data will be made available on request.

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