

Mixed-methods analysis of the applicability of the *Career Adapt-Abilities Scale* for isiXhosa-speaking South African township adolescents

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Abstract

In the present research study, key career adaptability constructs and the extent to which these constructs are relevant in a non-Western and developing world context were explored. The Career Adapt-Abilities Scale (CAAS) was administered to 396 Grade 11 isiXhosa speaking high school students from a low-income township in South Africa ($M_{\text{age}} = 18$, $SD = 1.3$ years). Data were analysed to assess measure suitability in comparison to two previous CAAS administrations, the international version and a previous South African administration. This mixed-methods psychometric exploration included Delphi panel focus group data to gain a deeper analysis of contextually bound and culturally sensitive factors.

Introduction

Western or developed world contexts are facing new issues of diversity and multiculturalism as never before, due to increasing numbers of displaced and migratory population groups. Therefore, research conducted in multi-cultural developing country contexts, such as South Africa, may prove extremely beneficial in providing examples of engaging with diversity to guide vocational decision-making processes in an ever-changing world-of-work. Future theoretical reviews and research are needed to discuss other important areas in the field of career psychology to gain further practical insights into the mechanisms of multicultural counseling with diverse groups presenting different career needs (Stead & Watson, 2017). The recognition of clients' educational, cultural, economic, social and historical contexts enhances the development of career adaptability, which allows them to respond better to rapid career-life transitions (Glavin, Haag, & Forbes, 2017). In order to address both subjective and objective markers of career development (McMahon & Watson, 2013), the merger of qualitative-quantitative approaches in career counseling has been called for (Maree, 2017) and this approach aligns closely with the Career Construction Theory (CCT) (Savickas, 2013).

Established career theory, such as the CCT, may be applicable to diverse population groups, but its applicability must be determined instead of assumed (Stead & Watson, 2006). Watson

(2013) has urged for caution in applying the CCT, as the basic tenets may not be versatile enough to include developing country contexts or meet the needs of diverse cultural groups, with particular reference to “non-career groups” (p. 6). This term was specifically used to describe underprivileged, underclass and disadvantaged population groups such as the Kayamandi township participants in the present study. Previous failure to meet the career needs of Black adolescents has been documented (Watson, Foxcroft, Horn, & Stead, 1997). Therefore, an undeniable need exists to equip clients, especially adolescents and young adults, with skills to transition repeatedly in work and other life contexts. This can be best facilitated by narrative and self-construction methods (Savickas, 2011).

In order to pay special attention to contextual factors, such as gender, ethnicity, culture and socio-economic status (Mkhize, 2015), the present research followed an *etic-emic approach* in response to the recent reactionism of the career psychology field against the inherent Western conceptualisation of career development. An *etic approach* refers to universalist theorising and application and supports the transfer of constructs, models and measures between cultures and countries in an attempt to gain cross-cultural measures of career behaviour (Einarsdóttir, Vilhjálmsdóttir, Smáradóttir, & Kjartansdóttir, 2015). The *emic approach* is based on cultural relativism, cultural-specific meanings and the development of indigenous constructs (Ægisdóttir, Gerstein, Alvin, Leung, & Lonner, 2011). Instead of polarising the emic and the etic approaches, integration is advocated to allow the exploration and synthesis of different perspectives as the cornerstone of cross-cultural studies. Thereby, the universal aspects of career adaptability that the CAAS model reflects is acknowledged, and culturally specific limitations could also be explored with the intention of follow-up research based on an emic approach.

Cultural diversity in career psychology

The role of culture is receiving increasing attention, and the central question is whether career assessments are perceived in the same way by diverse population groups (Morgan, De Bruin, & De Bruin, 2015). This is particularly important in a South African context, where different cultures and ethnicities may attach different meanings to the world-of-work or the role that interests and values play in career choices (Stead, 1996). However, there is no widespread agreement on the meanings of the terms culture or ethnicity, nor is there clarity as to what constitutes a culture or an ethnic group in South Africa, because post-apartheid cultures and ethnic groups are redefining themselves, which further compounds the lack of clarity behind these terms.

A lack of cultural homogeneity is not unique to South Africa, especially in a world where national and international connections are pervasive and many people may not identify with one culture or they may belong to one ethnic group but identify with another (Stead & Watson, 2017). Ethnicity is sometimes used as synonym for culture, although it generally refers to people with similar nationalities, languages or cultures (Betancourt & López, 1993). According to a social constructionist perspective, Stead (2004) suggests that culture is a “social system of shared symbols, meanings, perspectives, and social actions that are mutually negotiated by people in their relationships with others” (p. 392). However, cultural isolation is rare in a global village and culture or ethnicity is no longer geographically defined, which has serious implications for career counseling practices.

Specifically, the cultural idea of self-hood (Cross & Makus, 1999) or individualism has dominated Eurocentric or Western models of career development, with views of an individual

being an autonomous unit able to pursue career goals independently (Adams, van de Vijver, De Bruin & Bueno Torres, 2014). However, African and Eastern cultures emphasise collectivism, where a greater emphasis is placed on the co-operation with others to fulfil social obligations as an expression of self-hood (Mkhize, 2015). In a South African context, in the isiXhosa-speaking sample used in the present study, collectivistic cultural values are present, which are based on *ubuntu* values (i.e., humaneness) (Kamwangamalu, 1999). Therefore, the utilisation of the CAAS (i.e., CAAS-South African Form) with diverse population groups, such as the Kayamandi adolescent population group, allows cross-cultural measures of career adaptability to be created and adapted according to underlying cultural elements that may inform career decision-making processes. The present research is located in a peri-urban township called Kayamandi on the outskirts of Stellenbosch, which served as a Black residential area during Apartheid, where migrant farm workers from the Eastern Cape were housed. Surrounded by farmlands, a pejorative rural image of Kayamandi is projected, with informal housing structures, limited municipality services, high crime rates and high levels of unemployment and poverty. Traces of Apartheid education and work restrictions are still visible in the dominant occupations for residents in Kayamandi, which are low-paying, unskilled manual labour jobs or entrepreneurial jobs in the informal sector (Albien, 2013).

Variances in career decision-making processes are most apparent in multicultural settings and diverse socio-economic contexts, such as South Africa. This makes research that has been conducted in developing or Global South contexts (i.e., South Africa) potentially rich in meaning for the developed or Global North countries, which are now facing new issues of diversity in dealing with refugees, migrants and immigrants and could benefit from insights gained by previous accounts of managing diversity. Never before has the career counseling field been challenged by such a wide and diverse range of career issues and clientele that oppose traditional career conceptions, which has resulted in a call for new theoretical directions (Maree & Beck, 2004).

South African contextual implications for career psychology

Young people have been identified as an at-risk group internationally (Lindstrom, Kahn, & Lindsey, 2013), with early exposure to unemployment instilling hopelessness about the future, as well as negatively impacting their lifetime work trajectory (Rankin & Roberts, 2011). This is inherently problematic, because many psychological and social resources are required to adapt to major work-life transitions, which adolescents and young adults may not have developed yet (Cohen-Scali, Rossier, & Nota, 2018). Therefore, South African researchers are compelled to reflect on the global developments in career research and examine whether these perspectives may or may not be appropriate in a South African context to create “experience-near” portrayals of South African adolescents’ career development experiences (Blustein, McWhirter, & Perry, 2005; Stead & Watson, 2017).

Career choices in South Africa were previously constrained by socio-political factors that resulted from a white minority apartheid government’s policies oppressing black, Indian, and other population groups of colour (Naidoo, Pretorius, & Nicholas, 2017). With the fall of apartheid, South African youth are navigating a myriad of career options formerly inaccessible to their parents (Maree, 2015). Although the political transformation may have attempted to reduce inequalities, there is still significant structural disparities between schools located in black and white communities in terms of education quality, as well as inequities in resources and infrastructure available in urban areas in comparison to rural or traditionally disadvantaged community settings (Theron, 2016). Issues of race and socio-economic status

remain intertwined, and economic deprivation is still largely experienced by the majority of South Africans who are black (44.5 million in a population of 55.6 million) (Maree, 2012; Statistics South Africa, 2016).

South African career psychology has been critiqued for viewing career development processes largely from a white, middle-class, Eurocentric lens with little regard for indigenization (Watson, 2013). As a result, previous administrations of career assessments have served to accentuate racial differences whilst overlooking salient contextual, socio-economic or cultural factors that may have impacted the development of career competencies (Watson, 2010). Diversity and multiculturalism is evident in South Africa with 11 official languages, yet the indigenous languages with the largest proportion of native speakers are Zulu, Xhosa, Afrikaans, Pedi, Tswana and Sotho, respectively (Statistics South Africa, 2011). However, English is used as the lingua franca for official, business and educational purposes and is increasingly associated with city centres.

A rural–urban divide exists, resulting in limited educational and career development opportunities for youth in rural or peri-urban areas (i.e., townships), which is perpetuated by the poor quality of schools in South Africa’s townships, high rates of grade repetition and attrition (Blustein, Franklin, Makiwane, & Gutowski, 2017). The career development landscape for township youth has been previously documented in terms of career challenges and enablers (Albien & Naidoo, 2016, 2018). However, the resiliency mechanisms that contribute to overcoming the hardships faced by township adolescents have only recently come into focus (Theron, 2012, 2013, 2016). Emerging career constructs, such as career adaptability, need to be examined in multiple contexts, including township contexts to determine the validity or applicability in different linguistic and socio-economic groups, such as the black South African youth in this sample.

In the South African context, youth (aged 15–34 years) remain vulnerable in the labor market, with an unemployment rate of 38.6%, and of the 10.3 million young persons aged 15–24 years, about 30% were not in employment, education or training (Statistics South Africa, 2016). South African adolescents and youth face formidable career challenges due to socio-economic difficulties. As a result, students often may have to repeat school years or return to school after sporadic absences based on temporary employment opportunities or dire family circumstances (Munsaka, 2009). As a consequence, the age range of Kayamandi high school students is typically older in comparison to a South African middle-class high school cohort. In the present research, the majority of participants’ age scores fall within the adolescent age range between 10 and 19 years old, which coincides with the World Health Organization’s definition of adolescence. However, the present research would like to make the argument to extend the age range of adolescence to include the early 20s, by using the age range between 14 and 24 years, which is categorized by the *career exploration stage* (14 to 24 years) (Super, Savickas, & Super, 1996).

As a result of socio-economic and cultural changes across the last decades in South Africa, career developmental tasks are achieved at a later age in disadvantaged youth in comparison to a middleclass cohort. Similar European reformulations have occurred that have shifted developmental phases, where the core element is the development of a vocational identity, to a later stage between late teens and the late 20s, termed as the emerging adulthood period (Arnett, 2000, 2007; Luyckx, Goosens, & Soenens, 2006). The shifting and reformulation of career developmental tasks indicates the necessity for career psychology practices to equip

individuals with a set of adaptability skills that will facilitate traversing the ever-shifting sands of labor markets (McMahon, Watson, & Bimrose, 2012).

Career Construction Theory

Globalization and rapid changes in the world-of-work have caused occupations and professions to become more uncertain, resulting in the responsibility falling on individuals to design their lives throughout multiple career transitions (Guichard, 2009). Career adaptability has emerged as a central construct of the Career Construction Theory (CCT) (Savickas, 2013), to describe the set of psycho-social resources or psychological capital that may enable an individual to self-regulate and adjust to unfamiliar and complex problems presented by developmental tasks, career transitions and traumas (Öncel, 2014). Adaptation describes a series of attempts and problem-solving strategies that an individual may employ in order to implement a self-concept into work roles and occupational opportunities (Savickas, 1997; Savickas & Porfeli, 2012). Savickas (2005, 2007) identified the ABC's of career adaptability, which include coping attitudes, beliefs and competencies. These attitudes, beliefs and competencies influence four dimensions of career adaptability of *concern*, *control*, *curiosity* and *confidence*.

The first dimension of career adaptability is *career concern* that includes the task of developing a future orientation (Savickas & Porfeli, 2012). The CCT uses the construct of career concern to encompass a variety of highly related constructs, which include time perspective, planfulness, anticipation, future orientation, involvement and achievability of future goals (Öncel, 2014). *Career control* is the second most important dimension of career adaptability that describes the responsibility that individuals assume for constructing their own careers. This construct entails variables of decision making, assertiveness, locus of control, autonomy, self-determination, effort attributions and agency (Öncel, 2014). Individuals who lack *career control* tend to be indecisive, uncommitted, and hesitant about their future (Hartung & Taber, 2015). Therefore, career control is associated with a sense of direction, subjective ownership of future plans, which ultimately allows effective self-regulation in career decision-making (Hartung & Cadaret, 2017).

The third dimension, *career curiosity*, includes initiatives to engage in exploration of the world-of-work and the self in order to create a realistic vocational identity (Foxcroft & Roodt, 2013). Lastly, *career confidence* is the fourth dimension of career adaptability, which denotes beliefs harbored about task-related capabilities, otherwise known as self-efficacy (Bandura, 1986, 2006). Self-confidence, self-esteem and self-efficacy is generalized across career decision-making processes and results in execution of goal-related career activities (Betz and Hackett, 1981; Lent, Brown, & Hackett, 2000). Favourable career planning and exploration attitudes are theorized to result in positive attitudes towards the future, more internal attributions for success and higher levels of self-esteem in adolescents (Janeiro, 2009; Skorikov, 2007a, b).

The CCT addresses the challenge of linking culture and context in career conceptualizations to incorporate the complexity of the twenty-first century world-of-work and global cultural diversity (Watson et al., 2011). However, research is needed to address the relevance of the CCT based on the Westernized conceptualization of career development (Watson, 2013). The challenge is to consider how individuals exhibit career adaptation in low-resource or constrained career development environments, where the definitions of work may include informal, unpaid as well as paid work (Stead & Watson, 2006), instead of assuming that it

does not exist at all (Watson, 2009). The acknowledgement of circumscribed and compromised career aspirations in relation to existing limiting contextual realities, allows career counselors to facilitate the development of career aspirations that were not considered before and could enable individuals to transcend current realities (Blustein & Noumair, 1996; Watson, 2013).

Debates about whether career constructs that were developed in individualistic societies can be applied to more collectivist societies are well-documented (e.g., Arulmani & Nag-Arulmani, 2004; Maree & Molepo, 2007; Watson et al., 2011). Yet the interpretation of new constructs, like those introduced by Savickas (2013) have not yet been examined in relation to developing collectivistic societies, which underpins the importance of the present research study. Savickas (2013) acknowledges that the self is co-constructed through interpersonal interaction and culture in a collectivist identity (Watson, 2013). Within certain cultural groups in South Africa career development is defined in terms of a collective goal that is based on the betterment of others within a social network (Watson et al., 2011). However, it would be a misrepresentation to present two poles with collectivism and individualism on opposite ends, instead a continuum should be used, which acknowledges the cultural fluxes that have been previously documented (Albien & Naidoo, 2016). Individuals who move through socio-economic development and global influences may shift away from traditional perceptions of career identity development to assimilate a more Westernised understanding, which will affect their career development processes (Arulmani & Nag-Arulmani, 2004; Watson, 2013).

A central question is how realistic the notion of self-agency or self-control is (i.e., career control) when in certain developing country contexts, dominant and prescriptive perspectives of career development are imposed by guides, role models or community members (Arulmani & Nag-Arulmani, 2004). Another factor to take into consideration is the restriction of work opportunities in a developing world context, due to the high number of under- and unemployed individuals, and how personal meaning-making processes impact career adaptability as a result (Watson, 2013). Similarly, another dimension of career adaptability that is challenged by developing world contexts is that of career confidence (i.e., self-esteem), which can be based on meeting a collective goal (Arulmani, 2010). These criticisms add complexity and depth to our current understandings of the use of important constructs such as career adaptability in developing world contexts. In the construction of the CCT, Savickas (2013) acknowledged that development along the dimensions of career adaptability varies between individuals and is dependent on the context for patterns of development occur. Unique patterns of development need careful exploration in developing-world contexts where societal and familial expectations may mould these patterns of development in unprecedented ways that have not been documented yet (Savickas, 2013; Watson, 2013).

Previously, the Career Adapt-Abilities Scale (CAAS) International Form 2.0 has demonstrated reliability and cross-national measurement equivalence across 13 countries (Savickas & Porfeli, 2012). In the first South African study, Maree (2012) assessed the CAAS-International version's validity in a sample ($N = 435$) from the North West province, in the area of Molopo in Mafikeng, at three multiracial English-medium secondary schools, two of which were public schools and one a private school. The CAAS-International form was deemed psychometrically acceptable, it was shown to be applicable for South African use and renamed the CAAS-South African Form (Maree, 2012). However, psychometric data does not exist for the CAAS used with South African isiXhosa-speaking townships adolescents. This study, therefore, aims to contribute to research on career development and

adaptability processes in a marginalised adolescent population group engaging in the developmental process of creating a personalized career identity (Maree & Beck, 2004; Seabi, Alexander, & Maite, 2010).

Objectives and hypotheses of the study

The overarching objective of the present research is to determine whether constructs of career adaptability and the measurement thereof using the CAAS-South African Form, are applicable for adolescents from a low-resource community (i.e., Kayamandi). A mixed-methods exploration will allow a new perspective to be gained into how career adaptability competencies may manifest differently in this sample in comparison to the CAAS-International version (Savickas & Porfeli, 2012) and the North West CAAS administration (Maree, 2012). This addresses the international call for further testing and development of the nomological network of career adaptability and validity evidence of CAAS constructs in developing-world contexts, which forms the current research problem being addressed (Savickas & Porfeli, 2012; Watson, 2013). In addressing this problem statement, the specific aims of the current research study are to:

- (1) Assess the psychometric properties of the CAAS-South African Form applied in a South African township context (i.e., Kayamandi) and compare the psychometric properties and CFA loadings across three CAAS scale versions [i.e., CAAS-International (Savickas & Porfeli, 2012) and two South African administrations, namely: North West CAAS (Maree 2012) and Kayamandi CAAS administration].
- (2) Examine the CAAS-South African Form using a Delphi panel focus group with fieldworkers to gain contextual qualitative insights into unique factor loadings which may reflect subjective realities of Kayamandi young people's lives and will allow diversity to be taken into account.

The psychometric exploration was a precursor to determine if the measure was appropriate in the Kayamandi context before it was used as a pre- and post-intervention assessment measure over four periods of time (i.e., T₁ and T₂ a week apart before the intervention, a week-long 20-h life-designing intervention, then T₃ immediately after the intervention and T₄ a week later). This psychometric exploration was an important phase of a multi-phase mixed-methods study, to determine whether the CAAS-South African Form could be used as a reliable and valid repeated-measures indicator over different time points to assess the effectiveness if a career adaptability intervention with township adolescents could lead to an increase in career adaptability competencies. The psychometric exploration of the applicability of the CAAS-South African Form was supplemented using an emic approach by generating qualitative data from the Delphi panel after the psychometric data had been analysed.

Methods

Participants

Participants were recruited from Grade 11 students from the two high schools in Kayamandi, which use dual-medium instruction of isiXhosa and English. In the South African schooling system, Grade 11 is the year before high school graduation. The sample consisted of 396 black township high school students between the ages of 15 and 24 years old ($M = 18$,

$SD= 1.3$). Participant age groups were described as follows: between 15 and 16 years ($n = 51$ or 13%), between 17 and 19 years old ($n = 174$ or 44%), between 20 and 22 years old ($n = 95$ or 24%) and lastly, between 23 and 24 years old ($n = 75$ or 19%). This means that the majority of participants were between the ages of 17 and 22 years old ($n = 269$ or 68%), which indicates an older age demographic in comparison to middle-class age norms. There were 130 (33%) male and 247 (62%) female participants. Purposeful sampling was used to select these students, who voluntarily completed the CAAS-South African Form English version.

In addition, a Delphi panel focus group was held with the fieldworkers ($n = 7$) who were employed as research assistants to facilitate questionnaire administration and translation of the measures to overcome linguistic barriers. These fieldworkers were all Kayamandi residents, consisting of five women and two men, enrolled in a higher education institutions or colleges pursuing diverse careers. Their ages ranged from 21 to 25 years old ($M = 23$, $SD = 1.25$), which was higher than the normative undergraduate students' age range, which in a middle-class cohort would be an age range of 18–22 years old. The Delphi panel allowed extreme low or high factor loadings, linguistic concerns or other unaccounted factors that could have impacted CFA results to be discussed, which allowed cultural-nuancing to be included.

Measure

Career Adapt-Abilities Scale-International Form 2.0

The CAAS-International Form 2.0 (Porfeli & Savickas, 2012) consists of four scales with six items each aggregating to form a combined total score that indicates career adaptability. Responses are measured using a Likert scale from 1 (not strong) to 5 (strongest). The 24 items are equally divided into four subscales measuring concern, control, curiosity and confidence as psycho-social resources for coping with career planning and developmental tasks (Porfeli & Savickas, 2012). Varying levels of acceptable reliability were indicated across countries, with the CAAS–International reporting reliability of .92, which is higher than subscales of concern (.83), control (.74), curiosity (.79) and confidence (.85) (Savickas & Porfeli, 2012). The CAAS-International version was psychometrically analysed by Maree (2012), and it was found to be acceptable for use in a South African context. Based on the outcomes of this pilot study, changes were made to the questionnaire itself, the instructions were altered and the layout was changed to ensure a better “fit” with South African conditions and South African English. As a result of these changes, the questionnaire was standardised for use in South Africa, and an article based on this research appears in the 2012 special issue of the standardisation of the CAAS. Hence, the new name of Career Adapt-Abilities Scale-South African Form.

Procedure

Permission to conduct the research and publish the findings was obtained from the Stellenbosch University's (SU) Research Ethics Committee, Western Cape Education Department, the participating schools, the students and their parents. Anonymity and confidentiality of all participants were ensured and participants could withdraw from the study without any negative consequence.

Initially the CAAS-South African Form was translated into Xhosa (using the forward and backward approach) by a bilingual expert who works for the Department of African Languages at Stellenbosch University. This expert organised a panel of language experts, using the Delphi method to discuss ambiguous items in the CAAS-South Africa translation. As a result of the different regional dialect, the recommendation was made that the CAAS-South Africa should rather be administered in English with Xhosa translators present to mediate any language difficulties. Language difficulties stemmed from the abstract terminology used in the CAAS, which could not be directly translated into Xhosa. The Xhosa language simply does not have any equivalent words for many of the items, and long convoluted sentences had to be created in an attempt to approximate equivalent meanings. The consensus of the language experts was that the English version proved easier to understand.

An additional check was included at grass-roots level, whereby the CAAS-South African Form translation was evaluated using Delphi panel focus groups with seven Kayamandi residents employed as fieldworkers to facilitate the administration of the CAAS-South African Form assessment. The Delphi method was used to draw out an “expert or insider” opinion of the career difficulties that high school students faced in the Kayamandi context (Fletcher & Marchildon, 2014). These experts were asked to voice adjustments they believed would be beneficial, such as the inclusion of examples, explanations or instructions to aid understanding of the career assessments. Thereby, words or statements were identified prior to administration that may have been unfamiliar (i.e., “vocational choices”, “keeping upbeat” “exploring my surroundings” and “probing deeply into questions I have”) and bilingual explanations were provided to facilitate understanding.

The fieldworkers’ recommendations echoed the language experts. A final assurance was given by management at both high schools in Kayamandi after a copy of the CAAS-South African Form was checked for language proficiency, that the Grade 11 students had adequate English proficiency levels to be able to understand the vocational constructs measured. The final consensus was that the Xhosa academic translation was very convoluted and confusing. Language difficulties were based on the dialect of isiXhosa spoken in Kayamandi, which was very different from the academic translations offered by the SU isiXhosa Department. Previously, translation issues have been cited as a barrier to cross-cultural research in a South African context (Keikelame, 2018; Temple & Young, 2004). Issues of translation and language remain relevant to South Africa due to the identity and cultural politics that are tied to historical apartheid oppressions (Deumert, 2013; Swartz, 2014; Temple & Edwards, 2002).

Hence, participants completed the CAAS-South African Form in English guided by detailed instructions in both English and isiXhosa provided by the fieldworkers and the researcher. The fieldworkers acted as in-session translators to support administration procedures and facilitate understanding with additional explanations. Any questions the students posed were answered in both English and isiXhosa, mirroring the medium of instruction followed in the school environments.

Thereafter, in order to supplement the psychometric data, a Delphi focus group was held with fieldworkers after the CAAS administration. The Delphi method was used to draw on localised knowledge to explore subjective or contextual factors that may have influenced the understanding of CAAS questions and/or the resulting factor loadings on career adaptability subscales. The inclusion of qualitative data in this psychometric exploration was based on the

need to create “experience-near” and contextualised accounts of the career experiences of Kayamandi high school students (Blustein, McWhirter, & Perry, 2005).

Data analysis

Summary statistics and Cronbach alphas were calculated using Statistica 13 (Statsoft, 2017). Confirmatory factor analysis (CFA) was conducted using robust maximum likelihood estimation. LISREL 8.8 was used for the CFA analysis. In the qualitative component, NVivo 10 Qualitative Research Software (QSR International Pty Ltd., 2014) was used to facilitate Braun and Clarke’s (2006) steps of a thematic analysis of narrative themes based on the CCT framework (Savickas, 1997, 2005).

Results

The Kayamandi CAAS-South African Form administration item mean scores and standard deviations suggest that the typical response was in the score range of strong (4) to strongest (5). Skewness and kurtosis values for the 24 CAAS-South African Form items ranged from -0.90 to 0.04 and from -0.93 to 0.46 , respectively, an indication that the items conformed to the assumptions of confirmatory factor analysis for this sample. The subscale mean scores were concern (3.61), control (3.68), curiosity (3.31) and confidence (3.53) in the Kayamandi CAAS-South African Form administration. Skewness and kurtosis values for the four CAAS subscales ranged from -0.39 to -0.08 and from -0.44 to -0.17 , respectively, indicating that the subscales conform to the assumptions of correlation-based statistics for this sample. The second order indicators (i.e., the four subscales of career, concern, control and curiosity) of the career adaptability construct ranged from $.88$ to $.97$ and were significant at the $p < .001$ level.

Confirmatory factor analysis

Confirmatory factor analysis (CFA) revealed that data for the Kayamandi CAAS-South African Form administration fit the theoretical model well. The fit indices were $\chi^2(248) = 432.70$, $p < .01$, GFI = $.91$, NFI = $.90$, RMSEA = $.049$, and SRMR = 0.051 . These indices conform to the established joint fit criteria, which shows an adequate fit (Bentler & Bonnet, 1980; Hu & Bentler, 1999). All of these measures are within a range that would be associated with a good fit, and these diagnostics suggest the model provides an overall adequate fit (Hooper, Coughlan, & Mullen, 2008).

The t -values were all greater than 2 indicating the standardised loadings were all statistically significant (i.e. $p < .05$), and factor loadings were above $.3$. Since the sample size exceeded 350 participants, all loadings meet the guideline given by Hair, Anderson, Babin and Black (2010), namely that loadings of $.3$ or higher are acceptable if the sample size exceeds 350. If a factor loading is above $.3$ or very high (above $.6$), then the relevant variable helps to describe that factor quite well (Shyu, Li & Tang, 2013). According to Diekhoff (1992), factor loadings $\geq .3$ are considered to be moderately significant. Therefore, factor loadings were required to be $\geq .3$ and statistically significant ($p < .05$) to accept that any variable was part of the CAAS subscales. Hair et al. (2010) also suggested that a higher reliability is indicated by the average variance extracted, which should be greater than $.5$. The variance extraction scores were found to be $< .5$ (seen below in Table 1), which indicated variation in how participants responded to the CAAS questionnaire, thus affecting the factor loadings.

Table 1 Kayamandi CAAS-South African Form Administration variance extracted, construct reliability and standardised Cronbach alphas

Construct	Construct (second-order indicators)	Variance extracted	Construct reliability	Standardised Cronbach alphas
Adaptability	1. Concern	.23	.63	.64
	2. Control	.25	.66	.65
	3. Curiosity	.26	.68	.67
	4. Confidence	.30	.71	.71
	Total Score			.83

While a Cronbach alpha of .70 is usually considered a minimum cut-off point (Hair et al. 2010), arguments have been made for this requirement to be lowered to a range of .50 to .60 (Kent, 2001). In the present research, the construct reliability scores and Cronbach alpha scores were all above .60, which were viewed as moderately reliable. This is supported by Hinton, Brownlow, McMurray and Cozens (2004), who set Cronbach alpha reliability levels according to specific criteria. A Cronbach alpha level of .70 to .90 is generally indicative of a scale with a high reliability, whereas .50 to .70 is generally accepted as indicative of a moderately reliable. However, any score beneath .50 is considered to indicate a scale with a low reliability (Hinton et al. 2004).

Comparison between CAAS factor models

In terms of measures of reliability, the North West CAAS-South African Form administration (Maree, 2012) reported slightly lower reliabilities than the total CAAS-International sample. Specifically, the reliability for the total career adaptability score was .91, which was higher than the subscales for concern (.77), control (.71), curiosity (.78) and confidence (.80). In contrast the reliability scores for the Kayamandi CAAS-South African Form administration were lower, where the total career adaptability score was .83, which was higher than the subscale alphas for concern (.64), control (.65), curiosity (.67) and confidence (.71). However, the fit indices indicate that the Kayamandi data shows acceptable fit to the model. The fit indices for the CAAS-International model (RMSEA = .050 and SRMR = .040) (Savickas and Porfeli, 2012), the North West administration of the CAAS-South African Form (Mafikeng) Model (RMSEA = .046 and SRMR = .050) (Maree, 2012) and the Kayamandi administration of the CAAS-South African Form Model (RMSEA = .049 and SRMR = .051) showed much similarity.

The second-order construct adaptability loadings in the Kayamandi administration of the CAAS-South African Form, namely concern (.89), curiosity (.90) and confidence (.98) were higher than the CAAS-International sample of concern (.78), curiosity (.88) and confidence (.90) loadings. In the North West administration of the CAAS-South African Form, concern (.79), curiosity (.88) and confidence (.98) loadings were lower than the Kayamandi administration of the CAAS-South African Form. However, the lowest factor loadings in the Kayamandi administration of the CAAS-South African Form were seen in the control construct (.78), which can be compared to the North West administration of the CAAS-South African Form (.87) and the CAAS-International sample (.86). In Table 2 the loadings of the first-order items on the second-order factors (concern, control, curiosity and confidence) of adaptability in the Kayamandi administration of the CAAS-South African Form hierarchical

Table 2 A comparison of confirmatory factor loadings obtained in across the CAAS Factor Models

Construct	Item (first-order indicators)	Loading	Loading	Loading
		CAAS international	CAAS North West	CAAS Kayamandi
1. Concern	1. Thinking about what my future will be like	.66	.55	.38
	2. Realizing that today's choices shape my future	.61	.58	.45
	3. Preparing for the future	.77	.69	.43
	4. Becoming aware of the educational and career choices that I must make	.69	.63	.56
	5. Planning how to achieve my goals	.70	.67	.55
	6. Concerned about my career	.60	.46	.47
2. Control	1. Keeping upbeat	.48	.48	.38
	2. Making decisions by myself	.58	.51	.48
	3. Taking responsibility for my actions	.57	.55	.61
	4. Sticking up for my beliefs	.56	.57	.43
	5. Counting on myself	.66	.57	.55
	6. Doing what's right for me	.57	.59	.50
3. Curiosity	1. Exploring my surroundings	.62	.58	.39
	2. Looking for opportunities to grow as a person	.69	.61	.52
	3. Investigating options before making a choice	.64	.65	.49
	4. Observing different ways of doing things	.66	.67	.53
	5. Probing deeply into questions I have	.57	.61	.58
	6. Becoming curious about new opportunities	.58	.59	.53

Construct	Item (first-order indicators)	Loading	Loading	Loading
		CAAS international	CAAS North West	CAAS Kayamandi
4. Confidence	1. Performing tasks efficiently	.60	.59	.56
	2. Taking care to do things well	.66	.66	.57
	3. Learning new skills	.69	.57	.48
	4. Working up to my ability	.72	.66	.58
	5. Overcoming obstacles	.75	.68	.54
	6. Solving problems	.73	.65	.52
Construct adaptability	Construct (second-order indicators)			
	1. Concern	.78	.79	.89
	2. Control	.86	.87	.78
	3. Curiosity	.88	.88	.90
	4. Confidence	.90	.93	.98

All the loadings are statistically significant at $p < .05$

The CAAS International refers to the measure used in the study by Savickas and Porfeli (2012)

The CAAS North West refers to the administration of the CAAS-South African Form in the North West sample conducted by Maree (2012)

The CAAS Kayamandi refers to the administration of the CAAS-South African Form in the Kayamandi sample

factor model are compared to those of the North West administration of the CAAS-South African Form (Maree, 2012) and the CAAS-International Model (Savickas & Porfeli, 2012).

In terms of the *concern* construct, in the Kayamandi CAAS-South African Form administration, the concern scale loadings (.89) were higher than the CAAS-International sample concern (.78) loadings and the North West CAAS-South African Form administration concern (.79) loadings. The concern scale had the lowest Cronbach alpha scores and variance extracted in the Kayamandi CAAS-South African Form administration. The concern scale item 1 (*Thinking about what my future will be like*), item 2 (*Realizing that today's choices shape my future*), item 3 (*Preparing for the future*) and item 6 (*Concerned about my career*), all had loadings over .30, but under .50. The North West CAAS-South African Form administration only had similar loadings for the concern scale item 6 (*Concerned about my career*) (.46). Although loadings under .50 for the concern scale item 6 were found across both South African studies, these loadings were deemed acceptable as they were higher than the .30 value (Hair et al., 2010).

Specifically, the lowest factor loadings in the Kayamandi CAAS-South African Form administration were seen in the *control* construct (.78), which can be compared to the North West CAAS-South African Form administration (.87) and the CAAS-International sample (.86). The control scale item 1 (*Keeping upbeat*) (.35) in the Kayamandi CAAS-South African Form administration showed the weakest loadings compared to that of North West CAAS-South African Form administration and the CAAS-International sample (see Table 2).

In terms of the *curiosity* construct, the second-order construct adaptability loadings of the curiosity scale were similar across the administrations but the highest curiosity loading was seen in the Kayamandi CAAS-South African Form administration (.90). However, the curiosity scale item 1 (*Exploring my surroundings*) (.39) had one of the lowest loadings in the whole instrument. The curiosity scale item 5 (*Probing deeply into questions I have*) was expected to have low loadings due to language difficulties in the Kayamandi CAAS-South African Form administration, yet this item performed similarly to the CAAS-International (.57), which was taken to indicate sufficient translation and explanations.

Lastly, in terms of the *confidence* construct, second-order construct adaptability loadings in the Kayamandi CAAS-South African Form administration were higher (.98) than the CAAS-International (.90) and the North West administration confidence loadings (.93). The Kayamandi confidence scales showed the highest factor loadings, except the confidence scale item 3 (*Learning new skills*), which showed a loading of .48, that was not replicated across the North West and CAAS-International models. Nonetheless, the Kayamandi confidence scale had the highest Cronbach alpha scores and the highest extracted variance.

Delphi panel qualitative results

A Delphi panel focus group held with fieldworkers provided a qualitative examination of the CAAS-South African Form instrument administered in the Kayamandi context. A thematic analysis was conducted using the CCT as a theoretical framework and themes were grouped according to the four career adaptability dimensions of *concern*, *control*, *curiosity* and *confidence*, as can be seen in the Table 3.

Table 3 Themes and subthemes extrapolated using the CCT dimensions

Theme	Subtheme
1. Concern	1.1. Lack of future time perspective
	1.2. Mismatch between present and future ideas
2. Control	Fatalism
	2.2 Personal responsibility
3. Curiosity	3.1 Lack of career exposure
	3.2. Mimicking success
4. Confidence	4.1 High self-efficacy beliefs
	4.2. Family support

Thereby contextual insight could be gained into unique factor loadings, which could be a reflection of the subjective realities of Kayamandi youth. The thematic analysis was conducted using Braun and Clarke's (2006) six steps to allow subjective voices of marginalised youth to inform an understanding of how the CAAS-South African Form measure was perceived. The table above gives an overview of the themes and subthemes that were extrapolated in this qualitative strand of data analysis. The inclusion of this qualitative data could allow a deeper understanding of the complexity involved in measuring and developing career adaptability dimensions.

Integrated discussion

The present study research aimed to determine whether constructs of career adaptability and the measurement thereof, using the CAAS-South African Form, were applicable for adolescents growing up in Kayamandi. This presented a mixed-methods exploration of how these competencies could manifest differently in comparison to the CAAS-International version and the North West CAAS-South African Form administration. The results of this study indicate that the Kayamandi CAAS administration performs similarly to the North West CAAS-South African Form administration and CAAS-International Models in terms of Goodness of Fit indices. In the total Kayamandi CAAS-South African Form administration, the constituent four subscales each demonstrate an acceptable fit to the proposed hierarchical theoretical model describing the relations between the four subscales that constitute career adaptability resources.

The confirmatory factor analysis of the Kayamandi administration of the CAAS-South African Form demonstrated lower factor loadings in comparison to the CAAS-International and the North West CAAS-South African Form administration. Previous research has documented lower factor loadings amongst other South African disadvantaged population groups, which included Coloured and Black racial groups, on a variety of career assessments such as the Career Maturity Inventory (De Bruin & Bernard-Phera, 2002; Van Niekerk & Van Daalen, 1991; Watson & Van Aarde, 1986; Watson et al., 1995). Studies have documented lower factor loadings and lower Cronbach alpha reliability scores in South African low socio-economic and disadvantaged communities (Foxcroft & Roodt, 2013) and insights were drawn from other South African studies to set acceptable factor loadings above .30 (Hair et al., 2010), and moderate reliabilities at .6 (Kent, 2001) for the Kayamandi administration.

In contrast, the North West administration of the CAAS-South African Form had a higher reliability coefficient (.91), which could be due to the more varied socio-economic demographic of the sample that was inclusive of a higher socio-economic demographic as both public and private school students were represented. However, the particular sample in this study has unique cultural and contextual factors that must be considered in cross-sample comparative mixed-methods research. The confluence of socio-economic, linguistic and cultural factors may necessitate a less conservative interpretation of the reliability values and guidelines in order to acknowledge and document the effect the context of this idiosyncratic sample may have on the psychometric properties of the CAAS-South African Form. The lower socio-economic status of the Kayamandi participants, where poverty and unemployment characterises the township context, could have played a role in lowering the reliability coefficient to below .70 which has previously been documented in other South African studies (Foxcroft & Roodt, 2013).

While the value of .70 is commonly viewed as the acceptable lower alpha limit, Clark and Watson (1995) view an acceptable level of reliability to be above .60. Nunnally (1978) argues that acceptable levels of reliability could be as low as .60, to indicate moderate reliability, depending on the purpose of the instrument, especially if used for research purposes. This is supported by Cronbach and Shavelson (2004), where Cronbach alpha reliabilities concessions were granted if a measure was used in novel context, and the instrument performance needed to be explored to establish how much random error affected the measurement. In this case, the CAAS-South African Form had never been transferred to a low socio-economic context before (i.e., the Kayamandi context) and this research presents a novel context that needs psychometric exploration, as Cronbach and Shavelson mention (2004).

However, lower reliability coefficients could also be linked to the linguistic challenges that were evident in the Kayamandi sample. Because of migration, Xhosa is the primary language spoken in Kayamandi, but English, Zulu and Sotho also spoken in the community (Toms, 2015). In comparison, the North West sample of Mafikeng consists of predominantly isiTshwane and isiPedi-speaking population members (Statistics South Africa, 2011). Although Xhosa translations were carried out, these were rejected due to regional differences in dialects and convoluted terminology (see Sect. 2.3). Therefore, the final administration consisted of an adapted procedure using an English version of CAAS-South African Form with Xhosa explanations provided for items that were identified to pose potential difficulty for the participants. Thus, the lower reliability scores in the Kayamandi sample could be a result of linguistic barriers or could be indicative of poorly understood constructs or concepts. This could be due the difficulty in finding equivalent terms in the Xhosa language or as a result of lower literacy rates in English (as a second or third language) in township students.

In a post-measure Delphi focus group, fieldworkers were interviewed about their subjective experience of linguistic difficulties, the manner in which these difficulties were resolved and their interpretation of the item factor loadings. There were four main verbal substitutions made during administration. The word “vocation” was simplified and exchanged with the word “career” (concern item 4). In the phrase “keeping upbeat” a lot of confusion was experienced. Here the words “keeping positive” and “keeping motivated” were used to aid clarification (control item 2). Furthermore, curiosity item 5 “probing deeply into questions that I have” was replaced with “thinking/looking deeply into questions that I have” to help students understand whether they were engaging in self-reflective questioning. The last substitution was “performing tasks efficiently” with “performing tasks well and fast” (confidence item 1). Although these linguistic difficulties seem to have been identified and

resolved, previous research examining South African school-going students' reading, literacy and numeracy skills, have indicated deficits in these skills in comparison to age-appropriate norms, especially in low socio-economic contexts, which may have had unprecedented effects in the present research study (Department of Basic Education, 2014).

The addition of qualitative data allowed a dimension of subjectivity and meaning-making to be included, that would not have been possible with only a psychometric analysis. Therefore, it was necessary that the CAAS instrument was assessed both quantitatively and qualitatively to evaluate the relevance and sensitivity of the instrument. The qualitative data revealed that within the *concern* construct two subthemes emerged namely: *A lack of future orientation* and *mismatch between present and future ideas*. Specifically, low concern factor loadings were interpreted to indicate a general *lack of future orientation* evident in Kayamandi adolescents. Previous research studies found low levels and factor loadings to be indicated in dimensions that measured levels of future orientation (i.e., the career concern construct), based on the lack of future ideations, and the lack of goal setting skills that have been documented in disadvantaged youth (Alexander, Seabi, & Bischoff, 2010). However, other research has indicated that a future orientation may not be adaptive in a context where day-to-day struggles exist (Swartz, 2011). This was confirmed by a fieldworker's comments:

“Kayamandi kids have daily obstacles. They take one day at a time. This means that they don't look too hard into the future. They have more current questions such as, ‘what am I going to eat?’ When you ask about obstacles, these kids have probably thought of all of the obstacles they face, not just career obstacles. Daily obstacles seem harder than career obstacles. The question of keeping alive and having confidence to find a way... to make a plan. To hustle until you have been hustled. But also they have no idea of the career obstacles that they can anticipate or will face. There are hardly any examples of career success, where all career obstacles were overcome” (Fieldworker 1: F.1).

However, the implications of a lack of future orientation for career development have not yet been discussed. This is an issue that needs attention, as the practice of career counseling is built on the assumption that an individual invests effort in actively planning the development of a future self and an occupational identity. Although Kayamandi students were aware that educational and career choices needed to be made, they did not seem to have developed a future orientation. A fieldworkers' comment (F.4) suggested that a lack of concern for a future time orientation had a protective function as seen in the excerpt below:

“When you think of being concerned about the future: The question is, how the hell are you gonna study further when you know your mom is a domestic worker and she can't afford for you to go to university? It changes the way you think about the future. You wonder if it might not be more realistic to focus on getting a job at McDonalds in the future. So, instead, you dream of going to university without actually planning the future steps needed because you are scared those steps will take you straight to McDonalds instead.”

If having a future orientation is not adaptive behaviour in a specific context, then development of concern for the future may be detrimental to the individual because short-term survival takes priority over long-term goals to manage bread-and-butter priorities and psychological stressors. The behavioural consequences of a lack of future orientation are apathy, avolition, a lack of delayed gratification, a paucity of reflection, and a time

experience focused on day-to-day living and these behaviours have been overlooked in career counseling marginalised youth (Frankl, 1992; Swartz, 2011).

Because of the lack of future orientation, the second subtheme emerged as a *mismatch between present and future ideas*, which manifested in behaviours that detracted students from career goals because they had not planned a step-by-step process of attaining career goals (Alexander et al., 2010). This is encapsulated by this excerpt: “You don’t spend any time thinking about what you need to do now to try and get there. You just think when the time is right I will know what to do” (F.7). This indicates a complete lack of engagement with persistency beliefs, which is the sense of purposefulness and resolve in progressing towards a career goal, which can negatively affect career commitment and resolve (Arulmani, 2010). However, this is an interesting finding because participants exhibited high career self-efficacy beliefs (as described below), but did not seem to progress to the next step, which is hypothesised to be career goal setting and lastly, result in the initiation of career-related activities (Lent, Brown, & Hackett, 2002). If the Social Cognitive Career Theory (SCCT) is used to try and understand these findings, the problematic area seems to be *outcome expectations*, which refers to individuals’ beliefs of the outcomes or results of a performed behaviour. Perhaps when participants think about the future they are overwhelmed by anxiety, which results in a negative answer to the question “If I do it, what will happen?” and this deters the individual from progressing to the implementation of goal-related behaviour (Lent et al., 2002; Osipow & Fitzgerald, 1996).

Thereafter, the *confidence* construct was explored and two subthemes of *high self-efficacy beliefs* and *family support* emerged. Confidence had the highest loadings of the four subscales, which was confirmed by previous research studies that found that higher levels and factor loadings of confidence and self-efficacy were developed by overcoming daily obstacles (Swartz, 2011). This could be a reflection of the high self-efficacy beliefs, described as underlying beliefs that individuals hold regarding their capabilities of performing certain tasks (Lent et al., 2002), which have been previously documented in township youth based on daily examples of mastering hardships (Albien & Naidoo, 2018; Theron, 2013). Values that were passed on through the generations that helped deal with adverse apartheid conditions seem to have instilled a fighting spirit to get a better future, seen in the following fieldworker’s (F.2) quote: “This is about reminding yourself how far you’ve come. You look at your surroundings and your parents’ occupations and you use it to improve yourself.” Vicarious examples of overcoming barriers are visible (Swartz, 2011), which could lead to a more advanced development of this career adaptability competency in this population group than in other population groups sampled.

In addition, the *confidence* construct seemed to include collectivistic elements that emerged under the theme of *family support*. This was an unprecedented finding, but previous research has indicated the importance of family members in career development (Seabi et al., 2010), as well as how self-esteem is built up on collective goals (Watson, 2013). Further adaptations are recommended for the CAAS-South African Form to be better suited to the Kayamandi context by including more collectivistic elements to be able to better identify the impact that families and significant others have on an individuals’ career choices. A future suggestion is to explore the subscales created in Iceland, these included *co-operation* and *contribution*, which allowed the social, cultural and relational aspects to be included in the conceptualisation of career adaptability (Einarsdóttir et al., 2015).

The *control* construct exhibited the lowest control loadings in comparison to the two previous administrations of the CAAS, which was supported by previous research studies. Dimensions and factor loadings that measure control have been indicated by previous research to be lower in collectivistic cultures, because of collectivism's focus less on personal agency but more on collective goals (Watson 2013). The first theme that emerged was *fatalism*, which was interpreted to be a result of the unpredictable nature of township life, which includes poverty, crime, protests, shack fires, floods and other experiences of hardship. A fieldworker (F.3) confirmed this interpretation by stating that there were so many things that were out of an individual's control: "Some problems are too big to solve (e.g., substance abuse or gangsterism) these contextual and social problems are out of my control." Although notions of fatalism (i.e., a resignation and passive acceptance of life events) were supported (Arulmani, 2010), it was still seen to be the individual's choice if the event caused him/her to give up. This is further explained in this excerpt: "Sjoe, anything can happen in Kayamandi, from one moment to the next. You have no control over what happens to you, but you can't let those things stop you from reaching your goals in life" (F.1).

The constant influence of unexpected events affected the development of the career adaptability competency of control, and future research is needed to examine associations between locus of control and career-related outcomes in township youth. If an individual assigns uncontrollable factors that resulted in failure to achieve his/her career aspirations as an overwhelming sense of personal responsibility, further attempts at career endeavors may be forestalled. This is a concern as a *sense of responsibility* emerged as the second subtheme and the importance of this theme was evident in the control subscale item 3 (*Taking responsibility for my actions*), which had the highest loading in the CAAS-South African Form Kayamandi Model. A fieldworker (F.7) supported this high level of responsibility by stating: "You had a choice and you made the wrong choice. You will also blame yourself when something goes wrong even if you know that it was not your fault or you had no control over what happened. You have to be responsible for yourself, it is a choice how you handle it even if you have other generations' experiences to guide or protect you." Therefore, an overwhelming sense of responsibility has been cited as a barrier (Albien & Naidoo 2018) and career counselors should address facilitating a realistic perception of the benefits and limits assuming of personal responsibility within macro-systemic constraints.

Furthermore, the *curiosity* construct was seen to have higher second-order loadings in the Kayamandi administration compared to the two other factor models. This refutes previous research that observed low factor loadings in dimensions that measured career exploration, curiosity and openness to change. Earlier studies have shown early career foreclosure due to limited exploration (Blustein, Ellis, & Devenis, 1989), as well as the influence of significant others, that youth are exposed to in their social levels of influence, as preventing openness to new career ideas (Watson, 2013). Perhaps these high loadings should be interpreted as a lack of career exposure instead of a lack of curiosity. This introduces the first subtheme, *a lack of career exposure*, as explained by one of the fieldworkers (F.6): "Kids in Kayamandi had late exposure, they didn't have career exhibitions in primary schools, they only received information in Gr11 or their matric year. This doesn't mean that they are not curious this just means that they didn't have opportunities to gain information, they received most of their career information by word of mouth."

However, the second subtheme was *mimicking success*, which seemed to contradict career exploration or curiosity for new careers. Perhaps career curiosity in this context of limited exposure to careers means that careers are explored by observing other community member's

career choices. The fieldworkers gave this phenomenon a name, “copycatting success” where career paths of individuals were observed and the ones that achieved success, defined by a higher standard of living based on economic stability, were mimicked to avoid failure. This is explained in the following excerpt: “People see each other as all the same. People in the Kayamandi community are not different, we are all the same, with the same capabilities and so if someone fails at something, it is mostly a guarantee that I too will fail at the same thing.” (F.5). This finding could explain why previous research has found early career foreclosure in township youth career development (Alexander et al., 2010). Early foreclosure may frustrate or inhibit career exploration, leading to career choices based on inaccurate, stereotypical career ideals predominantly driven by desire for materialistic status (Mdikana, Seabi, Ntshangase, & Sandlana, 2008). However, there may also be hidden psychological benefits in choosing a vocational identity of a future self, based on materialistic indicators of success that serve to improve self-worth and keep self-efficacy beliefs high, whilst living in an environment of struggle, deprivation and despair.

Limitations, recommendations and conclusions

The current research results showed that Kayamandi administration of the CAAS-South African Form, North West administration of the CAAS-South African Form and CAAS-International have similar good fit indices. However, lower reliabilities and factor loadings were observed due to contextual, lingual and socio-economic factors, which were seen to affect the development and manifestation of career adaptability competencies. Although the measurement model fitted the data closely, the statistically significant factor loadings were generally of a moderate degree. However, indicators that are conceptually more distant from the supposed latent variable could result in a lower loading without leading to questioning of the validity of the measurement model and latent variable (Wilbers, 2015). The results of the confirmatory factor analyses suggest that while the intention of the CAAS to have sets of items reflecting specific primary career adaptability competencies succeeded, the subscale item measures hold a sizable amount of systematic and random error, which could be accounted for due to low socio-economic conditions associated with a township context.

Therefore, if an individual exhibits a low CAAS score on any of the subscales, this outcome is more than likely a dynamic bi-directional interaction between the person and his/her surrounding environment. Therefore, caution must be exercised in assessing, interpreting and providing feedback of career adaptability competencies. The findings of the present study indicate that career adaptability scores should be treated as adaptive and not deficit-centred in nature with culturally diverse clients worldwide. This will allow a shift away from deficit-centred approaches used, where population groups are assessed and their scores compared to a normative and/or middle-class demographic (Foxcroft & Roodt, 2013). Instead, by analysing how psychometric instruments perform in different socio-economic contexts, a reflection could be provided of the development of career adaptability competencies according to context. The findings of this study demonstrated that the CAAS-South African Form may be reliable and valid in the Kayamandi township context, however, careful interpretation is warranted to understand the emic influences operating in this low socio-economic context.

Future research should expand on these findings by investigating the psychometric properties of the CAAS across different global and local sample groups, which include differing socio-economic statuses, racial and linguistic groups and different geographical locations. This study may lead to improvements in the understanding and identification of career adaptability

competencies in at-risk adolescents or young people globally and locally. In addition, further adaptations should be explored, such as including the existing subscales of co-operation and contribution that were developed using an emic approach for the Icelandic context, but due to collectivistic underpinnings, these subscales may be relevant in a South African Kayamandi context or other collectivistic contexts. Future mixed-method studies are strongly recommended that will help to provide an understanding of participants' experiences of the career measures administered, as well as provide insight into the development of assessment procedures that practically include issues of diversity in the interpretation processes and scoring of career assessments.

In conclusion, the CAAS-South African Form seems to provide a measure of career adaptability competencies for Black South African township adolescents with moderate reliability and validity. The critical question, therefore, is to what extent the township status of the sample affects the generalisability of the foregoing reliability findings and whether the sample in any way changes the conclusions reached by earlier research on the CAAS. Future research is needed to explore the career adaptability experiences of participants who come from adverse social conditions to examine the reliability scores in comparison to normative samples. Nonetheless, this research has contributed to the available psychometric evidence documenting that socio-economic disadvantage systematically affects the manner in which the predictor and criterion constructs express themselves in observed measures. The current research provided an understanding of career phenomena in South Africa, which can enrich research developments in other countries. In order to make an effective contribution to psychological knowledge at both local and global levels (Stead & Watson, 2017), more research studies are needed that examine the relevance of Euro-American career theories to demonstrate the contextualisation of career adaptation with diverse population groups that include linguistic, collectivistic and career oppressive frames of reference (Watson, 2013).

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