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Young Adult Caregivers in Higher Education: A Study of Prevalence in France

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Data availability statement

The dataset generated or analyzed during the current study is available from the corresponding author upon reasonable request.

Conflicts of Interest

The authors declare no conflicts of interest.

Ethical Approval

This study was conducted as part of the CAMPUS-CARE research project, and was approved by the Research Ethics Committee of Paris Descartes University (IRB no.: 00012019-62). It was registered with the French Data Protection Authority (CNIL; Ref. 20200828).

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Introduction

Young adult caregivers (YACs) are young people aged 18-25 years who provide care, assistance or support to an ill/disabled relative on an unpaid basis (Becker & Becker, 2008). YACs are in the developmental stage of emerging adulthood (Levine et al., 2005), which is characterized by gradual autonomy (Arnett, 2004). They have so far received scant attention from researchers (Levine et al., 2005) and a few studies of varying quality have clearly addressed their situation (Chevrier, Lamore et al., 2022). As a result, there are, currently, no available support services clearly devoted to them while they need to be specifically targeted (Day, 2015). One way to fill this gap is to improve YACs identification. It is time to recognize and support them (Kent, 2020).

Prevalence and Identification of YACs

Only few studies investigated YACs prevalence. Among the youth (16-24 years), prevalence is reported to be 18.1% in the United States (Grenard et al., 2020), 6% in Australia (Australian Bureau of Statistics, 2016), and 9.8% in New Zealand (McDonald et al., 2009). In Europe, there is no prevalence among the youth. Nevertheless, Becker and Becker (2008) estimated that 5.3% of 16- to 24-year-olds in the United Kingdom are caregivers. In higher education context, the only study to have investigated YACs prevalence put it at 5.50% in Norway (Haugland et al., 2020).

The prevalence of YACs is quite heterogeneous, as it is based on different identification procedures: census or self-identification according to a broad definition. Using a census implies that YACs are already identified as caregivers by being involved in services or associations. As there are no appropriate services and that YACs could find themselves without support, this procedure can lead to an underestimation of their prevalence (Chevrier, Lamore et al., 2022). In reverse, self-identification based on a broad definition can lead to an overestimation if the nature and amount of daily activities are not considered. Indeed, being

confronted with the illness/disability of a relative does not necessarily lead to become a caregiver (Becker, 2007); it is the nature and amount of daily activities that differentiate a caregiver from a non-caregiver (Warren, 2005). One current challenge is therefore to develop a common procedure. This could entail considering caregiving responsibilities, as has been proposed for younger caregivers (Untas et al., 2022). For instance, the amount of support provided in response to the illness/disability of a relative within or outside the household could be measured using the Multidimensional Assessment of Caring Activities for Young Carers (MACA-YC18; Joseph et al., 2009). This self-report questionnaire probes caregiving activities, differentiating between normal helping activities and caregiving ones (Chevrier, Dorard et al., 2022). Untas et al. (2022) have suggested complementing it with a specific measure of emotional support (ES), which involves attending to the care receiver's emotional and psychological wellbeing (Day, 2015). This combined procedure would yield a more accurate estimation and avoid misidentification.

YAC Characteristics

Once identified, it is important to understand what characterizes YACs to develop support services adapted to their caring experience and needs. YACs generally care for a parent or grandparent, mostly a mother or grandmother. They may also care for a different member of their immediate family. Care-receivers may have a range of illnesses/disabilities, as well as comorbidities (Becker & Becker, 2008; Boumans & Dorant, 2018; Levine et al., 2005).

The sociodemographic factors that have been identified to explain why emerging adults take on caregiving responsibilities include gender, sibling rank, living arrangements, and financial status. There are divergent literature findings for gender and sibling rank. Some authors have concluded that YACs are mostly female and the eldest child (Becker & Becker, 2008; Haugland et al., 2020; Struckmeyer, 2013), but others have failed to find any gender or

sibling rank differences (Boumans & Dorant, 2018). In one study, there were actually more male than female YACs (Levine et al., 2005). Furthermore, many YACs live with the care-receiver and have single or divorced parents (Haugland et al., 2020). YACs may experience financial hardship because of caregiving and living in low-income families. This situation may lead to them taking on a part-time job (Becker & Becker, 2008; Grenard et al., 2020; Haugland et al., 2020).

YACs in Higher Education

YACs may be torn between the desire to be a good student and the desire to be a good caregiver (Kettell, 2018). They have to balance their lives between caregiving and studying (Leu et al., 2018). Some YACs find it challenging to maintain study routines, keep up with coursework, and devote sufficient quality time and effort to their homework. They may therefore feel less satisfied with their academic performances and achievements than other emerging adults, and think that they should do better (Day, 2019). Either consciously or unconsciously, caregiving responsibilities shape YACs' vocational choices, as more YACs than non-YACs choose care-related courses (Becker & Becker, 2008; Boumans & Dorant, 2018). However, YACs' vocational aspirations may also be restrained by the realities of balancing their ambitions with their caregiving role (Kettell, 2018). For example, YACs may opt for a distance learning program, in order to continue fulfilling this role. Caregiving responsibilities have also been found to shape YACs' choice of higher education institution (Becker & Becker, 2008).

Concerning students' mental health, compared with non-caregivers, YACs have higher rates and levels of affective symptoms (Greene et al., 2017; Haugland et al., 2020). They appear more vulnerable to psychiatric distress, owing to the burden of caregiving and the academic pressure (Greene et al., 2017). Furthermore, YACs have lower wellbeing scores than non-caregivers (Haugland et al., 2020).

The Present Study

Compared with other European countries, in France, the pursuit of higher education is a strong societal expectation (van de Velde, 2008). In 2016, only 8.8% of 18-24 years were not in education or training (Institut National de la Jeunesse et de l'Education Populaire, 2019). This is facilitated by student grants and particularly low tuition fees.

In terms of Leu et al. (2022)'s classification of countries according to awareness and policy responses to young caregivers' issues, France, like the United States, is classified as an *emerging country* with growing public and expert awareness. There are currently no public services specifically targeting YACs. YAC students were first mentioned in a 2019 national mobilization strategy that introduced greater flexibility into their pace of study, but no one seems aware of it (Chevrier, Untas et al., 2022). As the transfer of research findings to society through policy is the precursor of change (Leu & Becker, 2017), we conducted the present study to investigate YAC prevalence among French university students, using the identification procedure devised by Untas et al. (2022).

Method

Participants

The sample consisted of emerging adult students recruited in higher education all over France. The criteria for inclusion were age 18-25 years, no children, and enrolled on a higher education course. A total of 9571 emerging adult students agreed to take part in the study on a voluntary basis. Participants with missing responses for the caregiving activities questionnaire were excluded ($n = 2804$). The final sample therefore comprised 6767 participants (77.28% women; $M_{\text{age}} = 20.14$ years, $SD_{\text{age}} = 1.87$). Participants' characteristics are set out in Table 1.

Procedure

Data were collected from February 2019 to April 2021, using institutional emails or social media. Each participant provided informed consent, and data were collected through an anonymous self-report questionnaire.

Measures

Sociodemographic characteristics.

Questions assessed gender, age, living conditions, sibling rank, parents' occupational status, student job, perceived financial condition, and academic achievement.

Academic characteristics.

Participants were asked about year of study, course, possible course changes, distance learning programs, perceived academic success, academic grades over past year, any repeat years, and high-school diploma honors.

Illness/disability of a relative.

Participants were asked if a family member or friend had a chronic physical illness (e.g., cancer, diabetes), mental illness (e.g., depression, eating disorder), substance use disorder (e.g., alcohol, drug), disability (e.g., paraplegia), or any other health issue. If they answered "yes", they had to indicate the person who had this issue and whether they lived with that person.

Caregiving activities.

We administered the French version (Chevrier, Dorard et al., 2022) of the MACA-YC18 (Joseph et al., 2009). This 18-item questionnaire assesses six categories of caregiving activities: domestic chores, household management, financial/practical help, emotional care, personal care, and sibling care. Items are rated on a scale ranging from 0 (*Does not concern me/Never*) to 2 (*A lot of time*). Total scores range from 0 to 36, with a higher score indicating a higher level of caregiving activities. Cronbach's alpha in our sample was satisfactory ($\alpha = .87$).

The emotional care items of the MACA-YC18 probe emotional caregiving in terms of companionship, vigilance and accompaniment, whereas ES can be defined as showing empathy, trustfulness, and willingness (Untas et al., 2022). As recommended by these authors, we therefore included an additional measure of ES. This consisted of four items rated on a scale ranging from 1 (*Never*) to 5 (*Always*) that assessed the extent to which participants provided ES to their ill/disabled relative by (a) showing empathy by listening or understanding, (b) providing esteem support by encouraging or supporting, (c) showing confidence by giving assurance or comfort, and (d) providing signs of love by showing affection. Only participants who indicated that they had an ill/disabled relative were invited to answer. Scores ranged from 4 to 20. Cronbach's alpha was satisfactory in our sample ($\alpha = .93$).

Perceived provision of support.

We used the French adaptation (Leu et al., 2019) of the About Me and My Family questionnaire (Joseph et al., 2009) to assess whether participants perceived themselves as providing regular support to a relative. An affirmative answer was followed up with questions about who the relative was and why he or she needed support. To determine whether support was provided because of the relative's illness/disability, two researchers independently analyzed the reasons given by respondents. Interrater agreement calculated according to the usual criteria (i.e., Landis & Koch, 1977) was acceptable ($\kappa = 0.77, p < .001$). Differences in ratings were discussed until a consensus was reached.

Psychological distress.

We administered the French version (Salama-Younes et al., 2009) of the General Health Questionnaire (GHQ-12; Goldberg & Blackwell, 1970). For this 12-item questionnaire, respondents have to indicate the frequency with which they have experienced symptoms over the previous few weeks using the Likert method (all items coded 0-1-2-3).

The total score ranges from 0 to 36, with a higher score indicating greater psychological distress. Cronbach's alpha was satisfactory in our sample ($\alpha = .93$).

Wellbeing.

We administered the French version (Blais et al., 1989) of the Satisfaction With Life Scale (SWLS; Diener et al., 1985). This questionnaire comprises five items rated on a 7-point Likert scale. The total score varies between 5 and 35, with a higher score indicating greater life satisfaction. Cronbach's alpha was satisfactory in our sample ($\alpha = .85$).

Statistical Analysis

To identify YACs, we followed Untas et al. (2022)'s recommendation. The distribution of MACA-YC18 and ES scores was analyzed among those participants who reported being confronted with the illness/disability of a relative ($n = 4275$), to determine which emerging adult students provided a high level of support. For the MACA-YC18, the quartile distribution indicated that a score between 8 and 14 could be deemed to be moderate, and score of 15 or above high. For the ES score, the 75th percentile was 20, and a score equal to 20 was regarded as high.

Emerging adult students were classified as YACs if they 1) were confronted with the illness/disability of a relative (any relative within the household or a parent, sibling, or grandparent outside the household) and 2) provided a high level of support, defined as a) a high level of caregiving activities without a high level of ES, b) a high level of both caregiving activities and ES, or c) a moderate level of caregiving activities and a high level of ES. Emerging adult students were also classified as YACs if they did not indicate at the beginning of the questionnaire that they were confronted with the illness/disability of a relative, but subsequently reported supporting someone on a regular basis because of his/her illness/disability and providing a high level of support ($\text{MACA-YC18} \geq 15$). Emerging adult students who did not meet these criteria were classified as non-YACs.

We compared the YAC and non-YAC groups using a series of chi-square tests or *t* tests, depending on the nature of the data. Chi-square tests were followed by an examination of the standardized residuals: an absolute value greater than 2 indicated those cells that differed significantly from the hypothesis of independence. Analyses were conducted without missing values (i.e., 2.15% of the dataset).

Results

YAC Identification and Caregiving Context

Of the 6767 participants, 63.17% reported having at least one relative with an illness/disability. A total of 26.54% lived with their ill/disabled relative, and 8.59% provided substantial support. Emerging adult students who did not live with their ill/disabled relative represented 36.63% of the sample, and 6.47% provided substantial support to a parent, sibling, or grandparent. While 36.83% of the sample did not report having a relative with an illness/disability at the beginning of the questionnaire, 2.96% subsequently reported providing support to a relative because of a health issue (e.g., “because of her cancer”, “he cannot manage on his own because of his age”), and 0.80% provided substantial support. YAC prevalence was therefore 15.86%. Regarding YAC classification, 28.80% had a high level of caregiving activities without a high level of ES (MACA \geq 15 and ES < 20), 45.85% a high level of both caregiving activities and ES (MACA \geq 15 and ES = 20), and 25.35% a moderate level of caregiving activities and a high level of ES (MACA = 8-14 and ES = 20). The identification procedure is reported in Figure 1.

For 33.17% of YACs, the ill/disabled relative within the household was a mother, for 18.45% it was a father, for 15.94% a sibling, for 2.70% a grandparent, for 4.19% a partner, for 0.74% a friend, and for 2.32% a member of the extended family (i.e., step-parent, step-sibling, uncle/aunt). Outside the household, the ill/disabled relative was a mother for 16.68% of YACs, a father for 13.61%, a sibling for 10.62%, and a grandparent for 26.56%. These

relatives had a physical illness (63.37%), mental illness (44.55%), substance use disorder (28.42%), disability (29.45%), or other health issues (24.32%). A total of 66.36% of participants had several relatives with different illnesses/disabilities. The vast majority lived with at least one ill/disabled relative (78.19%). A total of 81.73% of participants reported that they perceived themselves as providing support to a relative because of the latter's illness/disability. They mostly stated that they supported their mother (79.65%), followed by their grandparent (33.01%), sibling (24.24%), and father (22.40%). Of the relatives they supported, 9.78% of mothers had a comorbidity, as did 19.32% of fathers, 9.82% of siblings, and 23.93% of grandparents.

YAC Sociodemographic Characteristics

Compared with the non-YAC group, and after a detailed examination of the standardized residuals, we found that YACs were mostly female, $\chi^2(N = 6767, df = 2) = 58.22, p < .001$, lived with a parent or partner, $\chi^2(N = 6766, df = 6) = 32.95, p < .001$, had siblings, $\chi^2(N = 6767, df = 1) = 7.95, p < .01$, and were in the middle of the sibship, $\chi^2(N = 6101, df = 3) = 39.30, p < .001$. Regarding parents' occupational status, YACs' parents were mostly unemployed or on sick leave for a health reason. More specifically, there were high proportions of stay-at-home mothers, $\chi^2(N = 6756, df = 4) = 75.11, p < .001$, and of other situations for fathers, $\chi^2(N = 6762, df = 4) = 53.74, p < .001$. Most YACs had a regular or occasional student job, $\chi^2(N = 5245, df = 2) = 50.89, p < .001$. They perceived themselves to have a worse financial status than others, $\chi^2(N = 6767, df = 2) = 121.30, p < .001$, and they were mostly in receipt of a student grant, $\chi^2(N = 6767, df = 1) = 45.43, p < .001$. There were no age-related differences, $t(6765) = 1.68, p = .09$. Results are reported in Table 1.

YACs' Academic Characteristics and Mental Health

Detailed examination of the standardized residuals revealed that YACs were mostly enrolled on medical/health courses, whereas non-YACs were mostly enrolled on science and

technology or engineering courses, $\chi^2(N = 6767, df = 6) = 68.49, p < .001$. Regarding year, there was a higher proportion of non-YACs in the fourth year, meaning that YACs were less well represented, $\chi^2(N = 6767, df = 5) = 11.90, p < .05$. Compared with non-YACs, YACs were mostly enrolled on distance learning programs, $\chi^2(N = 6767, df = 1) = 8.26, p < .01$. They perceived their academic performance to be poorer than that of other students, $\chi^2(N = 6767, df = 2) = 12.59, p < .01$, and had already repeated a year, $\chi^2(N = 6767, df = 1) = 10.20, p < .01$. Regarding high-school diploma honors, YACs were mostly awarded a *pass* or *cum laude*, whereas non-YACs were mostly awarded the *summa cum laude* honor, $\chi^2(N = 6717, df = 3) = 40.19, p < .001$. There were no differences between non-YACs and YACs on either course change, $\chi^2(N = 6767, df = 1) = 3.38, p = .06$, or academic grades over past year, $t(6754) = -1.79, p = .07$. Regarding mental health, YACs had a higher psychological distress score, $t(6336) = 6.22, p < .001, d = .21$, and a lower wellbeing score, $t(6333) = -6.04, p < .001, d = .20$, than non-YACs. All results are reported in Table 2.

Discussion

Our results revealed a higher YAC prevalence (15.86%) in higher education in France than that reported in Norway (5.5%; Haugland et al., 2020). This figure may seem high, considering that YACs are less likely than other young people to be students (Grenard et al., 2020), but it may simply reflect a French sociocultural specificity, in that young people are expected to study for a higher education diploma (van de Velde, 2008). Regarding the caregiving context, YACs appeared to provide care mostly for a mother or grandparent, but could also be confronted with the illness/disability of a father, sibling, partner, friend, or member of their extended family. The majority had several ill/disabled relatives, who mostly had a physical or mental illness. These results are more or less in line with the literature (Becker & Becker, 2008; Boumans & Dorant, 2018; Levine et al., 2005), and show that emerging adult students may experience several caregiving situations.

Literature findings are divergent, but our results reinforce the idea that YACs are mostly female, have single or divorced parents, have siblings and are in the middle of the sibship, come from a low-income family, experience financial hardship leading them to take a student job, and are in receipt of a student grant (Becker & Becker, 2008; Grenard et al., 2020; Haugland et al., 2020; Struckmeyer, 2013). The most startling result concerns sibling rank. While one previous study found that YACs were the eldest (Becker & Becker, 2008), and another that there were no rank differences between YACs and non-YACs (Boumans & Dorant, 2018), our results showed that YACs were from the middle. Results also showed that YACs in the student population could be either primary, secondary or tertiary caregivers (Struckmeyer, 2013). We can surmise that for some YACs, an older sibling takes on the primary caregiving role, thereby allowing them to pursue their higher education. From another perspective, the older sibling may have left the family household, leaving a younger one to take on the role of primary caregiver. Our findings raise additional questions about how young people become caregivers.

Regarding academic characteristics, results showed that YACs were mostly enrolled on medicine/health courses, some via distance learning programs, had perceived academic hardship, had already repeated a year, and had been awarded lower high-school diploma honors than non-YACs. In accordance with the literature (Becker & Becker, 2008; Boumans & Dorant, 2018), YACs in our sample seemed to be aiming toward care-related professions. It would be interesting to investigate whether YACs do indeed mostly choose medical or paramedical courses. In France, medical studies are particularly long and difficult, but paramedical ones are more accessible. Regarding our results for distance learning, these programs provide an opportunity to continue fulfilling a caregiving role whilst studying (Becker & Becker, 2008). However, this concerned only 5.31% of YACs. In France, distance learning is only an option for a very limited range of courses. We can assume that more YACs

would choose to follow their studies remotely if they were given the opportunity. Above all, our findings show that the caregiving experience may shape vocational and institutional choices.

Concerning academic achievement, and in accordance with literature (Day, 2019), YACs reported experiencing academic hardship, even though their academic grades over the past year did not differ from those of non-YACs. This perception may stem from the challenges in maintaining study routines, keeping up to date with coursework, and investing time and effort in homework, and may lead YACs to feel that they should do better (Day, 2019). This feeling may be partly explained by past school experiences. Our results showed that, compared with non-YACs, YACs had more frequently repeated grades and had lower high-school diploma honors. YACs who started caregiving in childhood or adolescence may have had a negative school experience, with a lack of understanding from school staff or bullying from peers because they were too mature or their family was seen as different (Becker & Becker, 2008). To fine-tune the present findings, it could be interesting to investigate grade repetition and high-school grades in the light of past caregiving experience.

Concerning students' mental health, our results showed that YACs experienced more psychological distress and had lower wellbeing than non-YACs. These findings reinforce the existing literature (Greene et al., 2017; Haugland et al., 2020) and demonstrate that mental health problems are a core issue for YACs.

Implications for Policy and Practice

Much needs to be done in France, as in other *emerging countries* (see Leu et al., 2022). Our findings highlight both the prevalence of YAC students and their academic and mental health needs. Kettell (2018) suggested several ways of improving YAC support in higher education. For example, a *caregiver's passport* in the form of a card or booklet would signal to all higher education staff that a student is also a caregiver. A member of the teaching

staff could also be designated as having special responsibility for YACs, and YAC student associations or societies could be set up to develop a sense of belonging and peer support. As a result of the COVID-19 pandemic, particular attention has been paid to emerging adult students' needs, and several support solutions have been put in place (e.g., Charbonnier et al., 2021). However, YAC students have not been singled out for these solutions, even though they appear more vulnerable than non-caregivers (Landi et al., 2022). COVID-19 support solutions should therefore be focused on YACs. Above all, the implementation of dedicated support services in higher education institutions should be underpinned by awareness campaigns (Chevrier, Untas et al., 2022).

Strengths and Limitations

The present study is the first to have investigated YAC prevalence and specificity in higher education in France. It offers a better understanding of the YAC student population. Nevertheless, it was based on the identification procedure developed by Untas et al. (2022) for use among late adolescents. Unlike adolescence, emerging adulthood offers more opportunities for romantic experiences and friendships, especially for emerging adult students who have left the family household (Arnett, 2004). Both romantic partners and friends should therefore be considered as care-receivers outside the household. Furthermore, whereas the MACA-YC18 is recognized as a screening tool for differentiating YACs from non-YACs (Chevrier, Dorard et al., 2022), the ES measure seems to be less discriminant. In our study, the 75th percentile was 20, that is, the maximum score. In its current state, this measure is therefore discriminant for late adolescents, but not for emerging adults. Accordingly, although the ES score was coupled with the level of caring activity, the procedure should be fine-tuned for samples of emerging adults. Above all, improving this identification procedure would enable it to be used in other countries, and thence allow for sociocultural comparisons. Furthermore, our findings show that if we are to understand YACs' academic experiences

better, we need more information about how they become caregivers. Future research should investigate YACs' academic experience through the academic year until the first job.

Conclusion

Our study is the first to have investigated the prevalence of YACs in higher education in France. In September 2020, French universities were attended by more than 1 696 000 university students (Marlat & Perraud-Ussel, 2021), and we estimate that around 268 986 of these may be YACs. Our findings highlight the financial and academic hardship experienced by YACs, as well as their mental health vulnerability. It is now crucial to enhance the identification of YAC students and the support they are given. Public policies should factor in the need to raise awareness among professionals as well as the general population, in order to support YACs (Chevrier, Untas et al., 2022).

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Table 1
Sociodemographic Characteristics of Whole Sample, YAC Group, and Non-YAC Group

	Whole sample <i>N</i> = 6767	YAC group <i>n</i> = 1073	Non-YAC group <i>n</i> = 5694	<i>t</i> (<i>df</i>)	χ^2 (<i>df</i>)	<i>p</i>
Gender, <i>n</i> (% , ASR)				-	58.22 (2)	***
Male	1463 (21.62)	138 (12.86, -7.60)	1325 (23.27, 7.60)			
Female	5226 (77.23)	919 (85.65, 7.17)	4307 (75.64, -7.17)			
Other	78 (1.15)	16 (1.49, 1.13)	62 (1.09, -1.13)			
Mean age in years (<i>SD</i>)	20.14 (1.87)	20.23 (1.89)	20.12 (1.87)	1.68 (6765)	-	.09
Living arrangements, <i>n</i> (% , ASR)				-	32.95 (6)	***
With both parents	2290 (33.84)	366 (34.11, 0.23)	1924 (33.79, -0.23)			
Alternating between parents	318 (4.70)	46 (4.29, -0.69)	272 (4.78, 0.69)			
With one parent	858 (12.68)	177 (16.50, 4.10)	681 (11.96, -4.10)			
Alone	1355 (20.02)	188 (17.52, -2.22)	1167 (20.49, 2.22)			
With a partner	698 (10.31)	132 (12.30, 2.34)	566 (9.94, -2.34)			
With a roommate	579 (8.56)	84 (7.83, -0.92)	495 (8.24, 0.92)			
Other	668 (9.87)	79 (7.36, -2.99)	589 (20.34, 2.99)			
Part of sibship, <i>n</i> (% , ASR)	6100 (90.14)	993 (92.54, 2.88)	5107 (89.69, -2.88)	-	7.95 (1)	**
Sibling rank, <i>n</i> (% , ASR)				-	39.30 (3)	***
Eldest	2507 (37.05)	424 (39.51, 1.12)	2083 (36.58, -1.12)			
Youngest	2201 (32.53)	282 (26.28, -5.51)	1919 (33.70, 5.51)			
Middle	1213 (17.93)	249 (23.21, 4.48)	964 (16.93, -4.48)			
Twin	180 (2.66)	38 (3.54, 1.78)	142 (2.49, -1.78)			
Mother's occupational status, <i>n</i> (% , ASR)				-	75.11 (4)	***
Employed	5119 (75.65)	718 (66.92, -7.32)	4401 (77.29, 7.32)			
Unemployed	311 (4.60)	53 (4.94, 2.17)	248 (4.36, -2.17)			
Stay-at-home mother	557 (8.23)	109 (10.16, 2.50)	448 (7.87, -2.50)			
Leave of absence for health reasons	356 (5.26)	105 (9.79, 7.23)	251 (4.41, -7.23)			
Other	413 (6.10)	77 (7.18, 1.59)	336 (5.90, -1.59)			
Father's occupational status, <i>n</i> (% , ASR)				-	53.74 (4)	***
Employed	5112 (75.54)	739 (68.87, -5.54)	4373 (76.80, 5.54)			
Unemployed	245 (3.62)	65 (6.06, 4.66)	180 (3.16, -4.66)			

Stay-at-home father	55 (0.82)	7 (0.65, -0.64)	48 (0.84, 0.64)		
Leave of absence for health reasons	206 (3.04)	57 (5.31, 4.72)	149 (2.62, -4.72)		
Other	1144 (16.91)	204 (19.01, 2.01)	940 (16.51, -2.01)		
Student job, <i>n</i> (%), ASR)				-	50.89 (2) ***
Yes, frequently	906 (13.39)	185 (17.24, 3.80)	721 (12.66, -3.80)		
Yes, occasionally	1094 (16.17)	231 (21.53, 4.97)	863 (15.16, -4.97)		
No	3254 (48.09)	433 (40.35, -7.12)	2812 (49.38, 7.12)		
Perceived financial status, <i>n</i> (%), ASR)				-	121.30 (2) ***
Better than others	1966 (29.05)	216 (20.13, -7.02)	1750 (30.73, 7.02)		
Same as others	4,064 (60.01)	648 (60.39, 0.24)	3,416 (59.99, -0.24)		
Worse than others	737 (10.89)	209 (19.48, 9.84)	528 (9.27, -9.84)		
Student grant, <i>n</i> (%), ASR)	3483 (55.90)	654 (60.95, 6.77)	2829 (49.68, -6.77)	-	45.43 (1) ***

Note. ASR: adjusted standardized residuals. Bold type indicates significant over- or underrepresentation. ** $p < .01$. *** $p < .001$.

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Table 2

Academic Characteristics and Mental Health of Whole Sample, YAC Group and Non-YAC Group

	Whole sample <i>N</i> = 6767	YAC group <i>n</i> = 1,073	Non-YAC group <i>n</i> = 5694	<i>t</i> (<i>df</i>)	χ^2 (<i>df</i>)	<i>p</i>	<i>d</i>
Year, <i>n</i> (%), ASR)				-	11.90 (5)	*	-
First year	2407 (35.57)	391 (36.44, 0.65)	2016 (35.40, -0.65)				
Second year	1738 (25.68)	299 (27.87, 1.78)	1439 (25.27, -1.78)				
Third year	1279 (18.90)	210 (19.57, 0.61)	1069 (18.77, 0.61)				
Fourth year	711 (10.51)	90 (3.39, -2.47)	621 (10.91, 2.47)				
Fifth year	472 (6.98)	62 (5.78, -1.67)	410 (7.20, 1.67)				
Sixth year	160 (2.36)	51 (1.96, -0.95)	139 (2.44, 0.95)				
Course, <i>n</i> (%), ASR)				-	68.49 (6)	***	-
Science and technology	1198 (17.70)	124 (11.56, -5.75)	1074 (18.86, 5.75)				
Literature, art, and human sciences	2593 (38.31)	439 (40.91, 1.91)	2154 (37.83, -1.91)				
Law and economics	1450 (21.43)	230 (21.43, 0.01)	1220 (21.43, -0.01)				
Medical/health studies	1052 (15.55)	229 (21.34, 5.71)	823 (14.45, -5.71)				
Engineering sciences	282 (4.17)	25 (2.33, -3.28)	257 (4.51, 3.28)				
Education and teaching	92 (1.36)	14 (1.30, -0.17)	78 (1.37, 0.17)				
Double course	100 (1.48)	12 (1.12, -1.06)	88 (1.55, 1.06)				
Course change, <i>n</i> (%), ASR)	1514 (22.77)	268 (24.98, 1.87)	1273 (22.36, -1.87)	-	3.38 (1)	.06	-
Distance learning program, <i>n</i> (%), ASR)	253 (3.74)	57 (5.31, 2.96)	196 (3.44, -2.96)	-	8.26 (1)	**	-
Perceived academic success, <i>n</i> (%), ASR)				-	12.59 (2)	**	-
Better than other students	1274 (18.83)	182 (16.96, -1.70)	1092 (19.18, 1.70)				
Same as other students	4365 (64.50)	674 (62.81, -1.26)	3691 (64.82, 1.26)				
Worse than other students	1128 (16.67)	217 (20.22, 3.40)	911 (16.00, -3.40)				
Mean academic grades over past year (<i>SD</i>)	13.10 (2.94)	12.95 (3.06)	13.12 (2.91)	-1.79 (6754)	-	.07	-
Year repetition, <i>n</i> (%), ASR)	1624 (24.00)	299 (27.86, 3.23)	1325 (23.27, -3.23)	-	10.20 (1)	**	-
High-school diploma honors, <i>n</i> (%), ASR)				-	40.19 (3)	***	-
Pass	1334 (19.71)	251 (23.39, 3.19)	1083 (19.02, -3.19)				
Cum laude	2094 (30.94)	380 (35.41, 3.31)	1714 (30.10, -3.31)				
Magna cum laude	1885 (27.86)	282 (26.28, -1.37)	1603 (28.15, 1.37)				
Summa cum laude	1404 (20.74)	158 (14.72, -5.40)	1246 (21.88, 5.40)				

Mean mental health score (*SD*)

GHQ-12	19.11 (7.64)	20.46 (7.65)	18.84 (7.61)	6.22 (6336)	-	***	.21
SWLS	21.77 (6.87)	20.59 (7.00)	22.00 (6.82)	-6.04 (6333)	-	***	.20

Note. ASR: adjusted standardized residuals. Bold type indicates significant over- or underrepresentation. GHQ-12: General Health Questionnaire; SWLS: Satisfaction With Life Scale. * $p < .05$. ** $p < .01$. *** $p < .001$.

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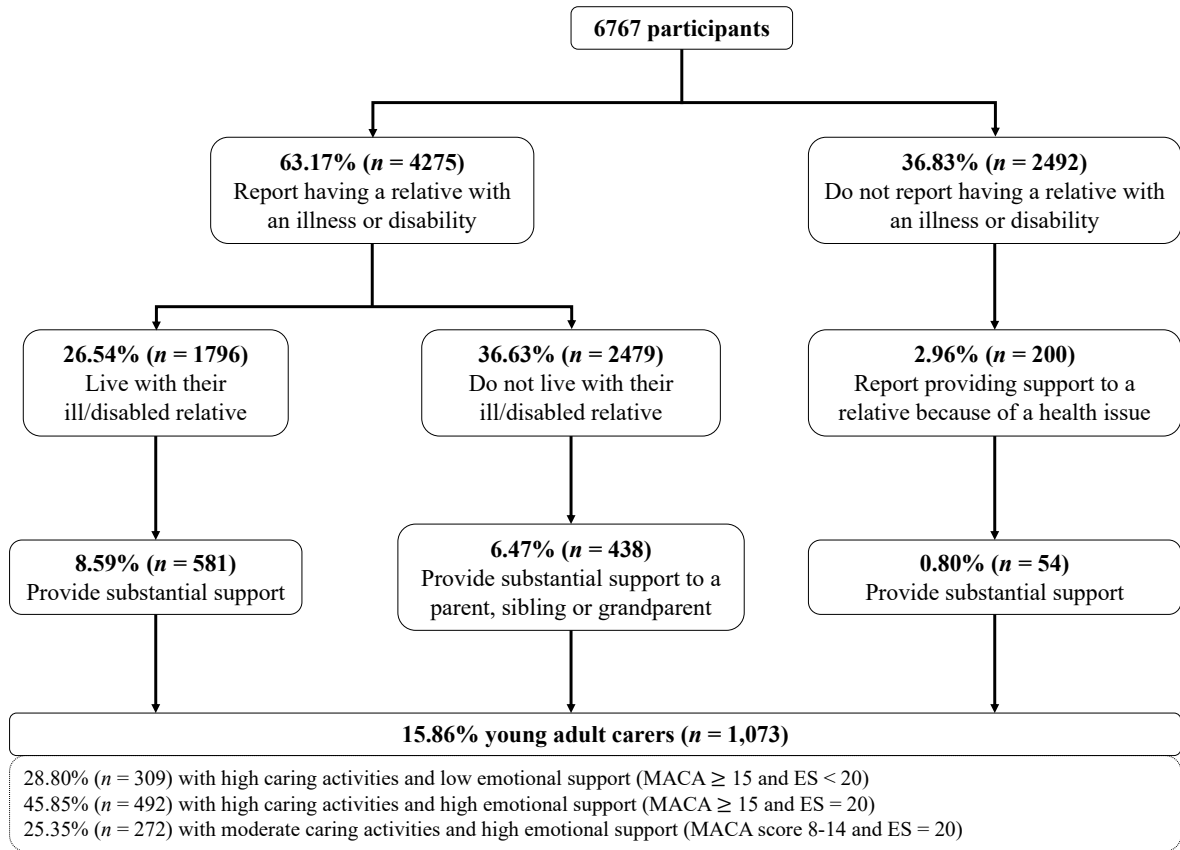


Figure 1. Procedure for identifying young adult carers.

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