European Journal of Education Studies
ISSN: 2501 - 1111
ISSN-L: 2501 - 1111
Available on-line at: www.oapub.org/edu

DOI: 10.46827/ejes.v8i4.3695 Volume 8 | Issue 4 | 2021

GENDER OR HELPER? TEENS CAREER CHOICES BETWEEN GENDER AND ALTRUISM

Savino Romani[1],
Sara Giammattei[2],
Maria Gabriella Pediconi[3i]
[1]Assistant Professor of Social Psychology,
University of Urbino "Carlo Bo",
DESP Department of Economics Society Politics,
Via Saffi, 15 – 61020 Urbino, Italy
orcid.org/0000-0003-1935-7862
[2]Assistant Professor of Social Psychology,
University of Urbino "Carlo Bo",
DESP Department of Economics Society Politics,
Via Saffi, 15 – 61020 Urbino, Italy
orcid.org/0000-0002-8303-6417
[3]Research Professor of Dynamic and Clinical Psychology,
University of Urbino "Carlo Bo",
DESP Department of Economics Society Politics,
Via Saffi, 15 – 61020 Urbino, Italy
orcid.org/0000-0002-4404-414X

Abstract:
This paper intends to explore the aspects related to the gender stereotypes, altruism and career choices among adolescents. In order to analyze the aspirations and career orientation of young generations we used a *survey* to measure gender stereotypes and a *personality scale* to measure altruism; a *careers inquiry technique* has been used to investigate their professional aspirations. Qualitative research allows us to define career profiles used by participants and to predict their interests in male and female professions affected by gender stereotypes. The results show that most altruistic young people tend to be less influenced by gender stereotypes in the evaluation of career choices. Moreover, altruists prefer more relational professions, thus confirming altruism as a favorable dimension for a pro-social working life. The implications of this article will serve as a resource for educational programs to promote altruism as a way of thinking and to prevent gender stereotypes.

Keywords: career choice, helping professions, adolescents, altruism, gender stereotypes

[i] Correspondence: email savino.romani@uniurb.it, sara.giammattei@uniurb.it, maria.pediconi@uniurb.it

1. Introduction

1.1 Altruism

In recent years, much research has dealt with altruism and its various implications in several areas. A variety of facets concerning this theme has emerged with different suggestions. To define the concept of altruism we refer to the definition of Pavlov and Markov (2016):

> "*Altruistic behaviour can be expressed through care for other people and actions which contribute to their welfare. Thus, it is regarded as one of the most significant factors in upbringing and education for the survival and development of an individual, as well as for the functioning and development of a society in general. Although much research has been done on altruism, the meaning of this concept is still a source of disagreement.*" (p. 42)

Starting from this concept, we think it is important to analyze how the latest research trends have investigated the concept of altruism and its implications. Some lines of research have considered the social representation of altruism in relation to gender: many studies in psychology and economics aim to explore differences in altruism's gender beliefs and their effects upon behaviour (Boschini et al., 2018; Salgado, 2018; Croson & Gneezy, 2009). Others focus on the role that altruism plays in the choice of partners, above all in women's preferences and in long-term relationships (Farrelly & King, 2019; Farrelly et al., 2016; Kelly & Dunbar, 2001). In these studies, simple economic games, such as the Dictator Game, were used to examine the impact of gender on altruistic behaviour.

Some researchers have studied whether and how altruism and gender influence the different types of helping behaviors defined as organizational or as voluntary (Hetty van Emmerik & Jawahar, 2005) and the connection between altruism and helping professions (Pavlov & Markov, 2016) which include education and medical professions. The instrument used in the first research was web-surveys while, in the second, the NSA 2000 measurement scale was used forty items related to helping values in the form of a five-point Likert scale. Another more specific type of research has dealt with the role that altruism plays on the emotional exhaustion of the social workers and on the factors behind the processes of emotional exhaustion, including idealism, career orientation, and altruism among undergraduate social work. The results do not support the hypothesized negative relationship between altruism and emotional exhaustion (Ngai & Cheung, 2009). The measurement was adapted from a variety of scales used in the existing literature concerning the altruism scale, as from Csikai & Rozensky (1997). A last line of research on the topic, the one closest to what we wish to deal with, investigated the role values play in shaping occupational interests and the perceptions of values afforded by traditionally masculine and feminine occupations among adolescents (Čabarkapa et al., 2017; Weisgram et al., 2010). Weisgram et al. (2010) explored jobs that were viewed as providing money, power, family, or altruism values, and then examined whether individuals' values predicted to their interest in such occupations among children,

adolescents and adults. Starting from the literature on the subject, they developed a research work about the perceptions of the degree to which various occupations afford money, power, family, and altruistic values and occupational interests. Adolescents' occupational values were evaluated by the 16-item Occupational Values Scale, an instrument developed for young adolescents by Weisgram and Bigler ((Weisgram & Bigler, 2006). The participants were asked to express a preference about different jobs that incorporate aspects of each of four values (money, power, family, altruism) on a 4-point scale from 1 (not at all) to 4 (very much). The results show:

> "*masculine jobs were perceived as affording money and power values more than feminine jobs. Feminine jobs, in contrast, were perceived as affording family values to a greater extent than masculine jobs. Interestingly, and contrary to expectations, masculine occupations were perceived by all groups as affording altruistic values to a greater extent than feminine occupations*." (Weisgram et al., 2010, p. 787)

In both adolescent and adult groups, altruistic and family values were evaluated more highly by females than males.

Other works investigated the gender differences in altruistic behaviour and, additionally, in expectations of altruistic behaviour, in a sample of Amazon Mechanical Turk (AMT) crowd workers living in the US (Brañas-Garza et al., 2018). In this research - a mega-analysis of more than 3,500 observations - confirmed that women are significantly more altruistic than man. They analyzed all DG donations that collected on AMT in several experiments conducted between 2013 and 2017. Moreover, a second study, always conducted thanks to the dictator game methodology, allowed them to establish that both women and men expect women to be more altruistic than men.

Following the literature that dealt with the relationship between altruism and gender, between altruism, expectations and stereotypes, and between altruism and helping professions, we thought to investigate if and how altruism affects adherence to gender stereotypes, if and how altruism directs professional choice in a pro-social sense, and how professional choices are affected by gender stereotypes and altruism. We studied students from three different high schools: Technical, Humanities and Vocational.

1.2 Gender stereotypes

The world of work is of theoretical interest for the study of gender differentiation because it involves not only societal policies and the individual development, but also cultural stereotypes. Although the reasons for the importance of being male or female are topics for heated debate (Bem, 1983, Lamke & Bem, 1993; Unger, 1993; Buss, 1995; Cosmides & Tooby, 1994; Eagly, 1995; Hyde & Plant, 1995; Casey, 1996), the descriptive fact that sex-related differences exist is uncontroversial. Indeed, gender development research has suggested that gender ideals of adolescents reflect not only their culture's perspective of appropriate traits and behaviours of women and men but also their personal future aspirations (Gibbons, 2000). Many studies interpret gender stereotypes as an expression

of gender preferences that guide the educational–professional choice. The activation of the stereotype would favor the accentuation of the similarities and differences; the stereotypical beliefs about the representation of male and female behavior; and the set of activities, roles, and traits that are most frequently attributed to females or males. The role of stereotypes in the choice of the professions appropriate to the gender has been the subject of study aimed at verifying the stereotypes linked to professional roles (Heppner et al., 2004).

Developmental research showed that children learn cultural-gender stereotypes of many jobs by the time they start school (Franken, 1983; Kuhn et al., 1978; Signorella et al., 1993). Furthermore, boys tend to aspire to jobs that are traditionally stereotyped by the culture as masculine, and girls tend to aspire to jobs that have been traditionally stereotyped as feminine (Franken, 1983; McGee & Stockard, 1991; Sellers et al., 1999). Past work (Aros et al., 1998; Ji et al., 2004) has documented that adolescents tend to perceive realistic professions as more appropriate to the male gender, such as drivers and some enterprising occupations such as building contractors, whereas social and artistic occupations are more appropriate to the female gender, such as teachers, midwives, or being a hostess or public relations officer. Another line of study has documented the role of companions and social contexts in gendered occupational aspirations. For example, Hardie (2015) found that young men with more female friends were more likely to aspire to a female-dominant occupation. In interpreting this pattern, Hardie suggested that: men may have been introduced by their female friends to traditionally feminine occupations that they otherwise would not have been exposed to, and having more female friends might protect men against social forces that would otherwise drive them away from female-dominant occupations. Recent studies explained the persistence of the phenomenon of the educational and professional segregation of gender, considering exclusively professional options connected to gender typing. In particular, during childhood, teachers and parents, through their expectations about behavior, roles, and attitudes of children, tend to influence the gender socialization processes that guide males and females toward professions deemed appropriate to the belonging gender (Iacolino et al., 2016; Pellerone et al., 2016). In line with gender stereotypes, teachers and family members offer males more learning opportunities in mathematics and science; they attribute them roles of leadership, initiative, and independence (Jacobs et al., 2006; Pellerone et al., 2015). Females are more tempted to read, more stimulated by social relations, and discouraged toward the approach attempts of mathematical activities, which are considered most suited to their male peers (Pellerone et al., 2015). Ramaci et al. (2017) analyzed the relationship between occupational self-efficacy and professional preference. Their results underline that males seem to perceive themselves more self-efficient in military, scientific–technological, and agrarian professions than females. Furthermore, the type of job performed by parents appears to be a self-efficacy predictor variable in the choice of professions in the services area. This study "*confirmed the role of stereotypes present in the educational and domestic environment; in particular, they underline as parents and teachers implement, often unconsciously, the gender socialization processes that guide adolescents toward professions deemed appropriate to the belonging gender*" (p.115).

Moreover, some investigators (Parker, 1995; Parker et al., 1989) have studied the link between prestige and gender directly. College students are found to rate occupations such as physician, lawyer, nuclear engineer, architect, and police chief—all of which are viewed as masculine and are traditionally dominated by males—as high in prestige, whereas they rate teacher, social worker, flight attendant, model, and telephone operator—culturally feminine and traditionally dominated by females—as moderate or low in prestige. Even within categories of jobs (e.g., professional jobs; nonprofessional jobs), undergraduate students rate male-dominated jobs as more prestigious than female-dominated jobs (Beyard-Tyler & Haring, 1984).

We've considered on the one hand how gender stereotypes affect task performances and economic subjective preferences when judging men and women. On the other hand, "*altruistic behavior can be expressed through care for other people and actions which contribute to their welfare. Thus, it is regarded as one of the most significant factors in upbringing and education for the survival and development of an individual*" (Pavlov & Markov, 2016, p. 42). But it is career choices that reveal in a very impressive way the professional aspirations of young people. The aims of this study concern the possibility to explore the bond between the subjective traits of altruism, the gender stereotypes and the professional choices as relevant key factors in understanding the aspirations and career orientation of young generations.

1.3 Career choices

Choosing a career is a lifelong dynamic process occurring over time with critical events and experiences playing a role in the selection of professional careers (Brown, 2002). The person's choices are subject to future revisions because of individual processing and overall psychosocial system dynamics to include boundary conditions such as: interaction of positive attitude, self-efficacy, 21st century skills (critical thinking, creativity, production, problem solving), sex and ethnicity (Lamb et al., 2018). Our study considers among the same conditions also altruism. According to Savickas' career construction theory (2005), human development is driven by adaptation to a social environment with the goal of person–environment integration. Among these conditions we consider gender stereotypes, as Savickas also states: the occupation is a tool of social integration or connection, one that offers the possibility of becoming easily integrated into society (Savickas & Porfeli, 2012). Career choice becomes one of the main tasks for young people who are at the end of school. According to Ginzberg, Ginsburg, Axelrad, and Herma (1951 as cited in Kniveton, 2004), the influences on career choice are complex and in particular are influenced also by the conceptualization of the adolescent of his abilities and preferences, and the pursuit of a correspondence between these skills and work requirements. Kniveton (2004) explored the influences and motivations on which students base their choice of career. The research showed that the greatest influence on career choice was parents, followed by those of their teachers. The importance of gender differences was also noted, with influences from parents of the same sex. The general motivation to work was mainly about money because they consider goods and sympathy for work more important because they consider it important to be satisfied. Only then

will the children cite long-term goals, such as personal development, career advancement and pensions. Other studies considered which are the key factors that can favor the orientation to the professional choice in middle school early adolescents. In particular, Santilli et al. (2019) found that factors such as the perceived effectiveness, utility and satisfaction of the participants favor career building. Kniveton (2004) assumes that for young persons their own gender can be a factor in career choice. According to Kniveton (2004), Weisgram and Bigler (2007) studied the tendency to gender segregation in career choice that is still very common in our society: sex segregation is especially evident in scientific fields (Weisgram & Bigler, 2006).

The aim of many studies is to explore the factors that shape in early and mid-adolescent girls' an interest in science and the scientific professions. Research with teens has also shown that sex differences in career values appear before adulthood. Female adolescents consider altruistic values more than males, indeed boys think it has more value to have influence over others and more free time than females (Johnson, 2001, 2002). Weisgram and Bigler (2006) considered the values' impact and in particular of altruism on professional choices. They outlined the role of altruism, the egalitarian beliefs, the self-efficacy and the values in middle school girls' career interests. The authors thought that the girls exposed to conferences about the altruistic value of science would show more egalitarian ideas of science, perceptions of science self-efficacy, and perceptions of science utility compared to the girls who had not experienced that kind of intervention. The results showed that the girls who participated in the intervention program had higher levels of self-efficacy and usefulness of science (but not of egalitarianism) compared to girls who did not participate in the program. The authors noted that participation in the intervention was not associated with higher levels of egalitarianism in the scientific fields. Furthermore, the research showed that participating in the program did not produce any significant effect on the girls' belief in the altruistic value of science. However, the results indicated that girls who were more convinced of the altruistic value of science perceived themselves to be more effective in science, considered science more useful and declared themselves more interested in pursuing science.

Other authors (Lamb et al., 2018) studied psychosocial factors and novel experiences as early as middle school and early high school because of their role in specific class and career selections (Jones et al., 2011). In particular, some studies (Dutta-Moscato et al., 2014) explored the relationship between career choice and specific disciplines such as STEM. Although many researchers have studied the key factors that influence STEM career choices that have been identified as being positive attitudes (e.g., self-efficacy, persistence, and interest related to STEM disciplines), appropriate soft skill sets (e.g., 21st century skills), and stable tendencies related to cognition (Sadler et al., 2012), they have studied these influences separately, but not in conjunction as a profile of interacting traits. Lamb et al. (2018) examined profiles of students most likely to select STEM Careers and proposed an example of how profiles change with the inclusion of a novel classroom experience over the course of a year with a Serious Educational Games-based classroom design and play component. The use of SEG design experiences increases the choice of STEM career students. The profile that seems more oriented

towards STEM careers is: a student with a high level of 21st century skills (creative training, critical thinking and problem solving), SEG design exposition, positive attitude, high mental rotation and visualization spatial skill, male gender and multiple science and math completed courses. Moreover, Kniveton (2004) noticed that there are recruitment problems in helping professions (nursing and teaching) because in our society there is emphasis on money, and the low ranking of altruism as a motivator. Weisgram and Bigler (2006) analyzed the role of altruism linked to gender: girls who strongly prefer to work in a helping profession (e.g., teacher, social worker) are unlikely to be especially interested in science because these careers are perceived as low in altruism. Indeed, boys that value altruism are inclined to enter scientific professions (e.g., pharmacy, medicine) because these jobs incorporate or involve helping. However, the authors note that all these factors are malleable and classroom teachers can favor environments that could produce profound transitions to STEM careers.

With this study we try to extend the scientific field to the possibility to explore the bond between the subjective traits of altruism, professional choices and gender stereotypes. We hypothesize that gender stereotypes, which the individual experiences from childhood (Kniveton, 2004; Santilli et al., 2019; Savickas, 1995), also have a strong impact on the choice of career. Altruism, professional choices and gender stereotypes could be relevant key factors in understanding the aspirations and career orientation of young generation. Our study aims to explore which and how many of the stereotypes are present in the subjects of the sample. To detect the presence of these stereotypes we did not ask the students for their preferences about the professions, but we created prototypes on the different professional roles and asked them to identify themselves with these prototypes and to express their liking on a *likert scale*. Furthermore, they were asked to try to identify themselves with a subject of the other sex and express their preference. In this way our methodology is "upside down" compared to the studies generally carried out on the subject.

2. Materials and methods

2.1 The main methods used within the research field

The typical instrument used to explore gender differences in altruistic behaviour is the Dictator Game (DG), where dictators' donations are taken as a measure of the individual's general altruistic tendencies (Brañas-Garza, 2006, 2007; Brañas-Garza et al., 2018; Charness & Gneezy, 2008; Croson & Gneezy, 2009; Farrelly et al., 2016; Farrelly & King, 2019). Recently qualitative interviews were introduced to collect occupational values, gender stereotypes and altruism: surveys and web-surveys estimated value-based goals that are mainly accepted at different levels. Hetty Van Emmerik and Jawahar (2005), Čabarkapa et al. (2017), Ramaci et al. (2017) and others, used measurements which were adapted from a variety of scales known in the existing literature related to the altruism scale (Ngai & Cheung, 2009; Pavlov & Markov, 2016). Weisgram et al. (2010) asked participants to indicate their interest in 40 items drawn from the 80-item long version of the OAT–Personal Measure (Liben & Bigler, 2002): they were asked to indicate

how much they would like to have a job that incorporates aspects of each of the four values (money, power, family, altruism) on a 4-point scale from 1 (not at all) to 4 (very much). Mendez and Crawford (2002) measured the career aspirations through a Revised Occupational Checklist (OCL-R) which was a revision of the previous Occupational Checklist. It measured student interest in careers that were traditional, neutral, and not traditional for women and for men.

Concerning career choice, the qualitative research used both a vocational test and professional profiles to portray jobs and careers. Riaz (1995) used a *vocational aptitude test* in order to study individuals' career choice and their occupational images for each occupation. The research explores in this way skills, qualifications and personality traits that are prerequisite for success in vocation. The aptitude test was added to the ad hoc adjective check list in order to describe the personality profile. Liben et al. (2001) asked questions about job status in a few jobs in order to study children's judgments of job status and job aspirations. Some of them were familiar occupations drawn from previous studies of occupational stereotyping, including culturally masculine, feminine and culturally neutral items. They also introduced some novel occupations about which children could be expected to have no previous knowledge in order to allow for experimental manipulation of the portrayal of jobs as performed by men or women. Following the previous study, Weisgram et al. (2010) thought to manipulate the role of values independently of the gender of the worker among children, adolescents and adults. To do so, they used an adaptation of Liben et al.'s (2001) novel job paradigm: the sample was applied to eight novel jobs and each job was described as satisfying one of four values: money, power, family, and altruism. In this way, the subject could choose based on gender and on values more linked to each job in his opinion.

Different methodologies were used in order to investigate the career choices. In particular in the study of career development with early-teens (Santilli et al., 2019) the authors implemented a group career construction intervention based on the My Career Story (MCS) workbook. They measured different factors such as: career adaptability, hope and optimism with the visions about future; resilience and future orientation with the design for the own future and the social validity through a questionnaire. Kniveton (2004) studied the influences and motivations on which students base their choice of career by a questionnaire/interview schedule on a Likert scale, based on a number of aspects of the background to career choice. Weisgram et al. (2010) studied the values' impact - male sex-typed (money, power) and two female sex-typed (family, altruism) - on professional choices through a survey based on task-specific attitudes measure and an interest measure.

2.2 Our method

This paper intends to explore career choices among adolescents coming from different education paths and how career choices are affected by gender stereotypes and altruism. In particular this study analyzes reciprocal bonds among subjective traits of altruism, gender stereotypes and professional choices as the most relevant key factors in understanding the aspirations and career orientation of young generations.

Our method is based on qualitative research to explore both social gendered representations and professional aspirations in order to:

1) define career profiles used by participants;
2) predict their interests in male and female professions affected by gender stereotypes;
3) find out the relevance of the trait of altruism in their job aspiration.

To analyze these aspects we defined three research questions:

RQ1: If and how adolescents support gender stereotypes with gendered representations of professional careers;

RQ2: If and how professional choices of adolescents are affected by altruism and oriented towards pro-social careers;

RQ3: How professional aspirations of adolescents are affected by gender stereotypes and altruism.

To categorize the main careers we used *Color Jobs* (Kalokerinos et al., 2017; Naffziger & Naffziger, 1974; "What Are Grey-Collar Workers?," 2014; Wickman, 2012; Wroblewski, 2019), indeed groups of working individuals are typically classified based on the colors of their collars worn at work; these can commonly reflect one's occupation or sometimes gender. *White-collar* workers are named after the white-collared shirts that were fashionable among office workers. *Blue-collar* are workers that usually in the past wore sturdy, inexpensive clothing that did not show dirt easily. Another "collar" description often used is *Grey-collars* (Hutchings et al., 2009) are workers who have licenses, associate degrees or diplomas from a trade or technical school in a particular field. *Grey-collar* workers have a specific skill set and require more specialized knowledge. Among these professional categories we have selected some by constructing the related profile. The *White-collars* include doctors, politicians, managers, lawyers judges, psychologists, pharmacists, professors, architects, pilots, footballers, and computer scientists. The *Blue-collars* include mechanics, painters, artisans, bricklayers, electricians, plumbers, butchers, truckers, drivers, workers, cleaners, seamstresses, hairdressers, beauticians, babysitters, home-helpers, saleswomen, barbers and housewives. The *Grey-collars* include teachers, nurses, obstetricians, policemen, firefighters, office workers, fashion models, waiters, chefs and stewardess.

To measure how the gender stereotypes and altruism affect career choices among adolescents, we analyzed the influence of independent variables on the representation that students have of gendered professions and identified their vocational aptitude to helping jobs. We used the following instruments: an "ad hoc questionnaire". The ad hoc questionnaire was divided into four parts: the first designed to detect biographical data (gender, age, school, family composition and parents' occupation); the second contained a list of gendered occupations; and the third helped to detect the reasons for the choice among pre-established career profiles, using a range from 1 "strongly disagree" to 5 "strongly agree"; the forth detected the supporting degree for male and female stereotypes using a range from 1 "strongly disagree" to 5 "strongly agree".

To define career profiles used by participants, following a qualitative paradigm, we have selected the prototypes of some specific professions in terms of *professional profile*

and asked the students of our sample to identify themselves with the proposed profiles. In our *careers inquiry technique* we defined a prototype for each profession in which the teen finds some fundamental information about the job and the training to obtain it. Each teen gives a mark on a Likert scale for each of predefined professional profiles considered as possible careers for herself and for a teen of the other sex**.** The way of identification with the pre-ordered profiles is a method close to the dynamic of projection in which the underlined aspect of personality and/or the past subjective experience of individuals are called into play referred each choice.

To predict adolescents' interests in male and female professions affected by gender stereotypes. In order to investigate gender stereotypes in terms of gendered professional careers we asked participants to indicate 5 typical professions for male and female. Also, to assess adherence to gender stereotypes, we submitted the sample to a Likert-scale questionnaire like many other studies (Heppner et al., 2004; Laguía et al., 2019; Sellers et al., 1999; Wilson et al., 2007). In particular we asked participants to explain by means of a Likert scale the degree of adherence to each of 15 gendered oriented sentences. For instance: "*women are nurses, not doctors"* or *"power is for men and not for women"*.

In order to explore how gender stereotypes affect teens' experience we used as well a method based on the identification with preordered materials as it is able to avoid the limitation of explicit declarations.

To find out the relevance of trait of altruism in their job aspiration. In order to have a measure of the trait of altruism we used the *Adjective Check List*: a self-report measure of personality which allows the researcher to select some specific aspects among others. In our application the test gives the measure of altruism. It consists of 300 descriptive adjectives used to give a self-report of personality. It offers 37 standardized scales to assess different traits of subjectivity. In order to assess the dimension of altruism we considered the following scales:

- *Number Checked***,** that shows the total number of adjectives checked;
- *Intraception***,** that measures the ability to engage in attempts to understand one's own behavior or the behavior of others;
- *Nurturance***,** that indicates the skill of engaging in behaviors that provide material or emotional benefits to others;
- *Affiliation***,** that reveal the ability to seek and maintain numerous personal friendships and
- *Succorance,* that shows the capacity to solicit sympathy, affection, or emotional support from others.

2.3 Our data

Our sample involved three groups from three different high schools: technical, vocational and humanities. For each school we considered ages between 15 and 17.

We had 120 participants; 40 for each school: technology school, humanities school and vocational school. 77 are boys, 43 are girls, all between 15 and 17 years old.

Independent variables: gender and school.

Dependent variables:

- *professional stereotypes*: 5 typical professions for male and 5 typical professions for female written by each participant;
- *traditional careers*: the chosen professions were grouped into tree professional classes – *Blue Collars*, *Grey Collars* and W*hite collars*;
- *professional profiles*: each participant gives her preference from 1 (minimum) to 5 (maximum) for each of 6 professional profiles prepared ad hoc (manager, engineer, doctor, lawyer; computer scientist, nurse, employer, waiter, teacher, trader, driver, plumber, worker, firefighter, home helper); boys have read profiles written for males, girls the profiles written for females;
- *gendered projected profiles*: each participant gives not only her preference from 1 (minimum) to 5 (maximum) for each of 6 professional profiles prepared but was asked to give a projective preference for a peer of the other sex, imagining how said peer could estimate each profile in parallel;
- *helpfulness*: an indicator obtained summarizing for each participant the given scores for helping professions profiles added to the helping given professions (i.e. home-helper, doctor, firefighter, policeman, psychologist, nurse) – in the first part of survey - as typical for female and male; we consider this sum as an indicator of individual attitude to professions in which the work is characterized by helping others;
- *gender stereotypes*: each participant gives a score from 1 (minimum) to 5 (maximum) for 20 stereotypical sentences based on widespread prejudices about men and women; we consider general gender stereotype the total of scores;
- *female stereotypes*: the sum of scores related to stereotypical sentences for women;
- *male stereotypes*: the sum of scores related to stereotypical sentences for men;
- *altruism*: some of ACL scales were considered useful to measure the altruistic dimension: *Number Checked* that is the total number of adjectives check: *Intraception* that measures the attempts to understand one's own behavior or the behavior of others; *Nurturance* that is the ability to provide material or emotional benefits to others; *Affiliation* that measures the skill of seeking and maintaining numerous personal friendships; *Succorance* that is the capacity to solicit sympathy, affection, or emotional support from others.
- *openness*: we gave a specific meaning to the ACL scale called *Number Checked* that is the total number of adjectives checked because it gives the measure of individual willingness to self-describe the personality; adolescents who gave a lot of adjectives can be considered more extrovert than those who gave just a few adjectives. Openness is a dimension not only linked to a general number of checked adjectives but becomes in this research an extroversion's indicator as a part of altruism.

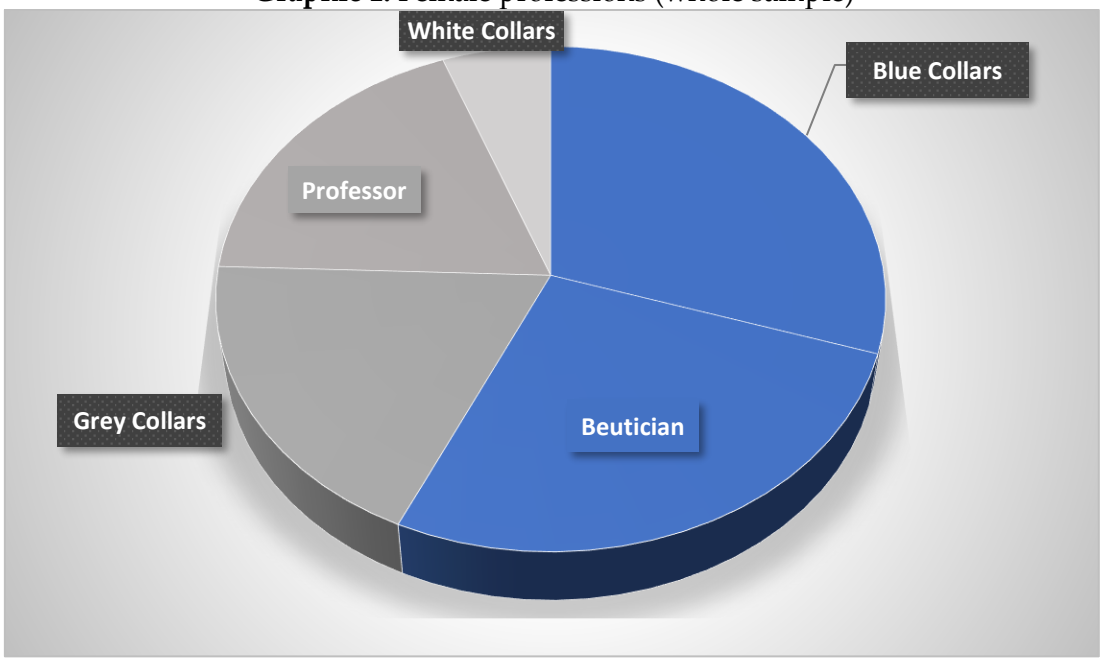
We analyzed data through some significant statistical operations: frequency analysis, contingency tables, Pearson's correlations, t student and ANOVA for the comparison among averages.

3. Results and discussion

3.1 Professional stereotypes: gendered jobs

In order to explore the career representations, we chose to divide them into three main groups: with the term *Blue-collars* we mean those jobs involving fatigue such as an electrician, driver, saleswoman, hairdresser, beautician, etc. For *Grey-collars* we mean those who perform administrative work, for example employees, policemen, firemen, teachers, nurses etc. Finally, as *White-collar* we consider lawyers, doctors, entrepreneurs, pharmacists, footballers, etc.

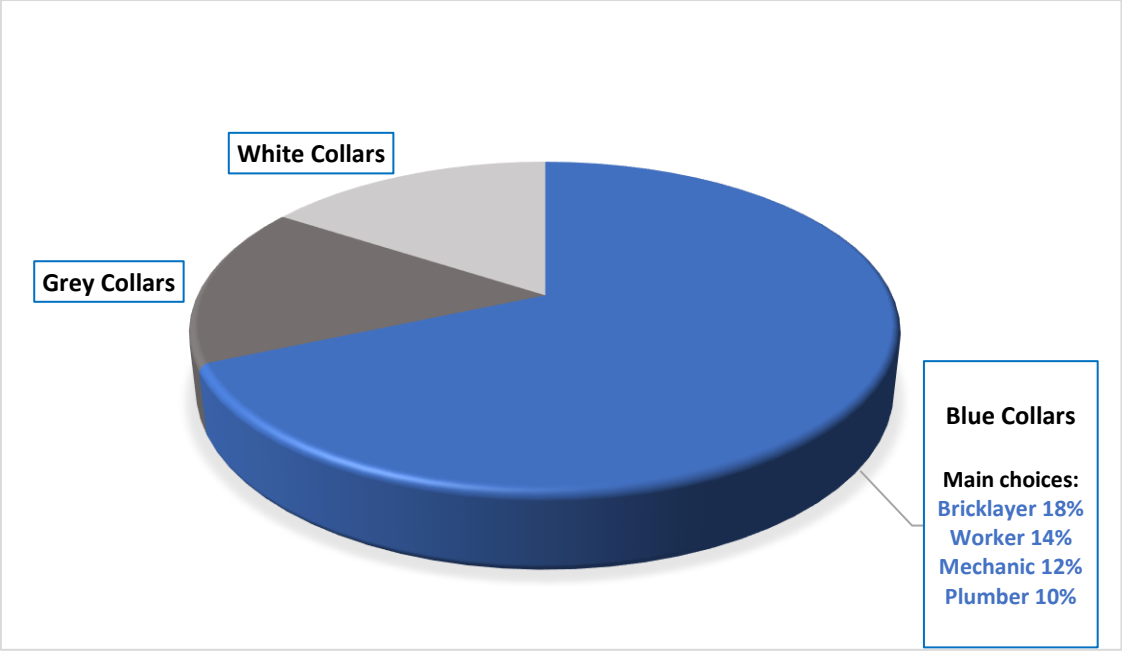
Graphic 1: Female professions (whole sample)



The aerogramme *female professions chosen by whole sample* shows how the three selected careers are distributed. The most represented is the *Blue collars* at 57%. In particular, the job more attributed to women is *Beautician* at 27% that is equivalent to 108 choices. In second position we find *Grey collars* (38%) with the job of *Professor* that was chosen by 75 students (19%). Other jobs had the following percentages: clerk (11%), shop assistant (11%), home helper (7%), nurse (7%), housewife (6%), seamstress (6%) and doctor (6%). We can observe that many of them are caring professions. The two most frequently chosen jobs point out an interesting aspect of female professional representation, divided between *"body care" & "mind" education.*

In the aerogramme *male professions chosen by whole sample* we find the prevalence of *Blue collars* (68%) composed by: *bricklayer* at 18%, the *worker* at 14%, *mechanic* at 12% and the *plumber* at 10%. All professions that characterize male professional imagery are tiring and humble jobs. Other jobs were: law enforcement operators, doctors, drivers, electricians, cooks, football players and firefighters. Note that lawyers, doctors, footballers and firefighters are not so frequent.

Graphic 2: Male professions (whole sample)

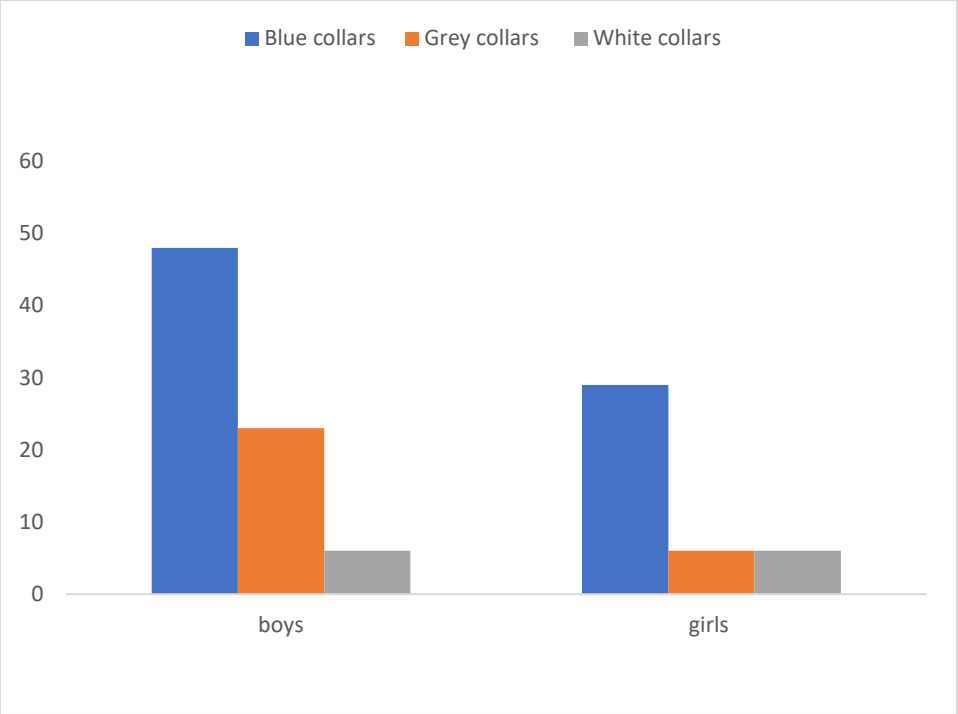


On the one hand, our adolescents' choices seem to confirm the professions traditionally attributed to men and women. Boys tend to aspire to jobs that are traditionally stereotyped by culture as masculine, and girls tend to aspire to jobs that have been traditionally stereotyped as feminine (Franken, 1983; McGee & Stockard, 1991; Sellers et al., 1999). On the other hand, the first two choices for female professions seem to connect in a less rigid way to the world of women's work, not completely represented by manual work. Comparing the percentages of three careers within the two aerogrammes, we note that the *Grey collars* are more present among the female professions (38%) than the male ones (16%). On the other hand, *White collars* are attributed more to men (16%) than to women (6%).

3.2 Professional stereotypes: the first choice

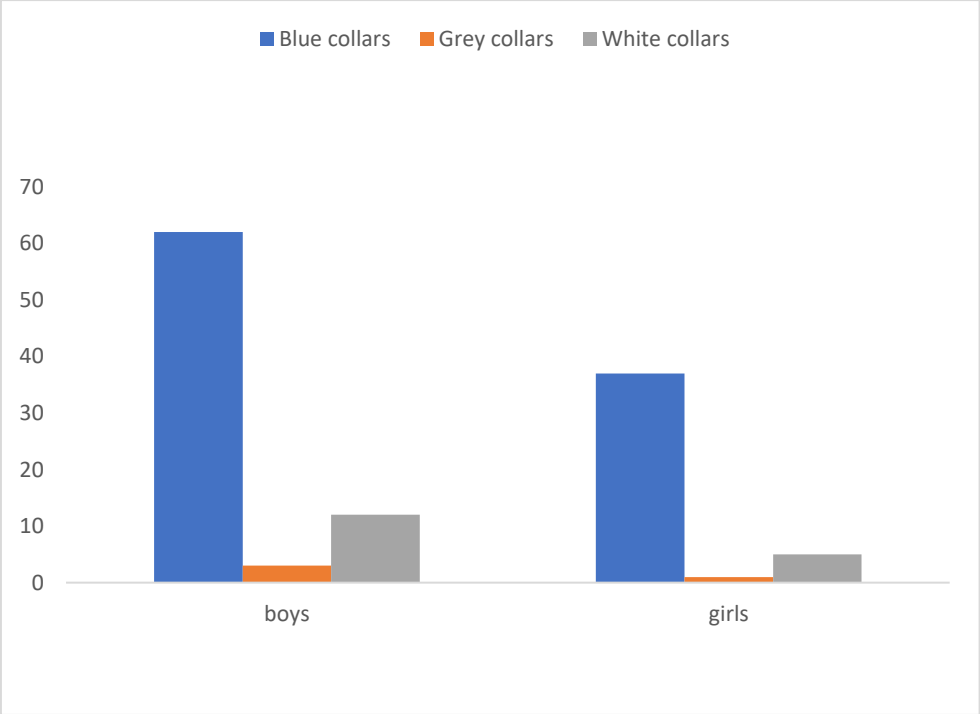
Let us now look at the distribution of the frequencies of the first career chosen by men and women for each of the two professions, male and female, we had considered as the most representative of the gendered aspiration of each subject.

Histogramme 3: Female professions (first choice based on gender)



Now let's look at the trend of the three careers in the first choices of female professionals expressed by the girls. The *Blue-collars* are in a clear majority both for girls and boys. Female *Gray-collar* is more represented among boys; *White-collars* are less chosen.

Histogramme 4: Male professions (first choice based on gender)



Although both sexes maintain a strong preference for *Blue-collars* as first professional male careers, boys represent more *White-collars* and *Grey-collars* compared to girls. We can note the virtual absence of male *Grey collars*, more among girls than boys

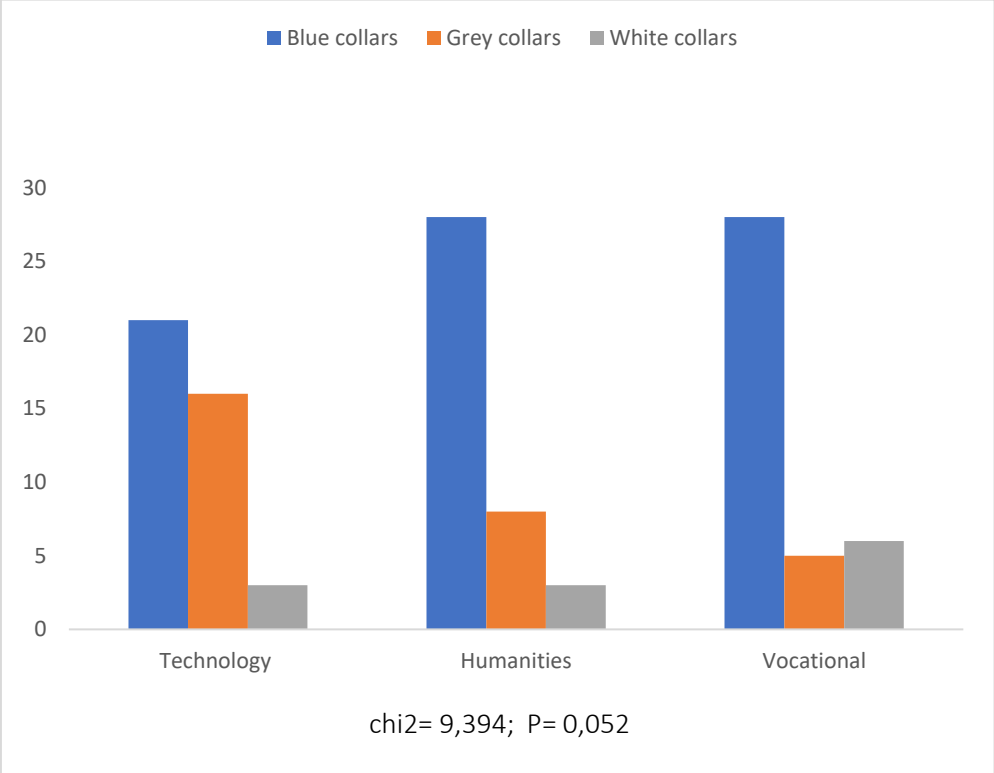
Blue-collar is the first career also for women and in both sexes. And it is still the men who give women a career that is a bit higher, while their female peers seem more homogeneous. These histograms show us a greater social mobility of the female professions in the boys' representation compared to girls. The girls seem more committed to the traditional representations of women's job.

Our findings are very interesting but seem very different from the investigation of Mendez and Crawford (2002):

> *"Results of this investigation showed that, among the careers listed, girls perceived a wider range of options open to them than boys. It is likely that girls perceived male-dominated, female-dominated, and balanced careers (e.g., makeup artist, doctor, social worker, college professor, veterinarian) to be within their realm of options, while boys perceived mostly male-dominated and balanced careers to be among their "appropriate" choices (e.g., forest ranger, professional athlete, marine scientist, mechanical engineer). [...] boys were attracted not only to male-dominated careers, but in particular, to male-dominated careers that require considerable education and are high in prestige (e.g., surgeon, judge)."* (p.103)

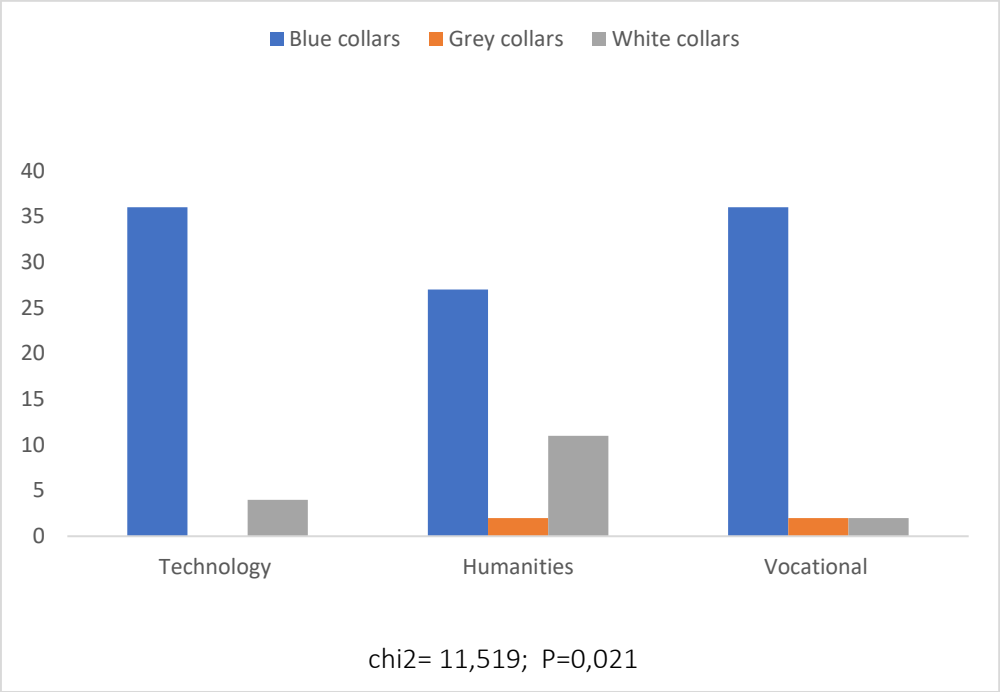
Let's look at the distribution of the frequencies of the first career chosen by the students of the three schools that participated in our research: technology, humanities, vocational.

Histogramme 5: Female professions (first choice based on school)



The distribution of female careers is very interesting. *Blue-collar* career predominates mostly among Humanities and Vocational students; *Grey-collar* career is more chosen by technology students; *White-collar* finds a certain relevance among Vocational students. Statistical significance (chi2= 9,394; P=0,052) shows on the one hand that Vocational students are more available to represent female professions as higher – *White collars* - than other educational paths; on the other hand, Technology students give to women the possibility to have the *Grey collar* jobs. Only Humanities students remain anchored to the traditional gendered *Blue collars*.

Histogramme 6: Male professions (first choice based on school)



About first choices of male professions all schools choose *Blue-collars* as their first career, but only humanities and vocational students attributed a *Grey-collar* career to men. *White-collar*, mostly chosen by humanities students, seems to confirm a correspondence between high school education and high professional aspirations. Statistical significance (chi2= 11,519; P=0,021) on the one hand confirms the prevalence of male gendered stereotype like the manual worker, on the other hand the humanistic education seems to support the ambition to higher careers. How do we interpret the virtual absence of *Grey collars*? We give a first interpretation in terms of social representation of the world of work divided into high and low, and Blue or White without the middle ground of Grey jobs. This representation is consistent with a certain rigidity of stereotypes of male jobs compared with female ones.

Our results for the teens' first choice of female and male careers based on different education paths are consistent with other researches that point out the role of experience at school in orienting the aptitudes and stereotypes of young generations (Kniveton, 2004).

3.3 Professional profiles: between gender stereotypes and altruism

We have analyzed six professional profiles matching them with gender stereotypes and altruism. These six professions and the relative careers were typically identified as female and male also by our sample. They are: *home-helper* and *plumber* as *Blue-collar workers*, *professor* and *firefighter* as *Grey-collar workers*, *manager* and *doctor* as *White-collar workers*.

Each professional profile presented two versions: one was based on the sex of the respondent and the other one was parallel but "gendered" which means the same professional profile written for an imaginary peer of the other sex. We asked each participant to give their own score from 1 (minimum) to 5 (maximum) as an index of individual interest in each professional profiles. Boys read profiles written for males and girls profiles written for females. We also asked each participant to express a selected preference from 1 (minimum) to 5 (maximum) for an imagined peer of the other sex, hypothesising how a peer of the other sex could estimate each profile in parallel.

Table 7 presents Pearson's Correlations among: professional profiles and their gendered versions; indexes of altruism (*Intraception*, *Nurturance, Affiliation, Succorance*) and the tendency to choose helping professions (*Helpfulness* and *Openness*); *Gender Stereotypes* in general and their male and female specifications.

Table 7: Analyzed profiles and gendered profiles[ii]

	Gendered profile	Gender stereotypes	Female stereotypes	Male stereotypes	Int	Nur	Aff	Suc	Helpfulness	Openness
Home-helper	*									
Gendered Home-helper		**	**	**		*				
Plumber		*	*	*						
Gendered Plumber		**	**	**				**		
Teacher	*				**	**	**		**	**
Gendered Teacher		**	**	*						
Firefighter	*				**	**	**			**
Gendered Firefighter		**	**	*					**	
Manager	**					*	**			
Gendered Manager					*		*	*		*
Doctor	**				*	**	*			*
Gendered Doctor					*		**			

Home-helper. Those who give a good score to *home-helper* as a possible profession for themselves give a similar score also for the other sex. However, it is linked with both female and male gender stereotypes. Our sample confirms this job as a helping profession: indeed, the scores are closely linked to *Nurturance* which is the ability to provide material or emotional benefits to others.

[ii] The tables show only the statistical results by asterisk: * is for P <0.05; ** is for P <0.005. When the correlation is negative we use the sign "-" before an asterisk.

Plumber. If a *plumber* seems to be a job conditioned by both female and male gender stereotypes, a gendered plumber is the same and much more. What is interesting is the link between the gendered plumber – the job selected for the other sex – and *Succorance* that is the ability to elicit sympathy, affection, or emotional support from others. When the adolescent attributes the job to the other sex he/she uses a relational prototype of it.

Professor. It is a job willingly attributed to the other sex, closely linked to the aptitude of helpfulness and supported by most aspects of altruism. The teacher is a both a relational and vocational job. However, this profession is not exempt from the influence of gender stereotypes - more from female ones but also male ones – when the job is selected by the other sex. The link between gendered professor and female stereotypes could be read as a support of the prototype of female educational professions.

Firefighter. The adolescent who imagines himself as a *firefighter* is an altruist: extrovert, able to understand one's own behavior or the behavior of others, practicing the skill of seeking and maintaining numerous personal friendships, used to providing material or emotional benefits to others, soliciting sympathy, affection, or emotional support from others. Then we can call the firefighter a vocational profession. However, when this job is selected by the other sex it reveals an unexpected ambivalence. On the one hand, it seems a helping profession, but on the other hand it becomes influenced by gender stereotypes, more by female ones.

Manager. The adolescent who imagines himself as a *manager*, willingly imagines the same for the other sex: a choice that seems free from gender stereotypes, then. Moreover, the *manager* is an altruistic choice, but with a singular distribution of aspects of altruism: when the manager is selected by the adolescent themselves, the choice is significantly supported by the ability to provide material or emotional benefits to others and more by the aptitude for forming personal friendships. When it is selected by the other sex it is supported by the openness and the aptitude to understanding one's own behavior or the behavior of others, the inclination to personal friendships and the aptitude to sympathy and emotional support. The Manager emerges as a vocational and relational profession.

Doctor. She or he is an altruist. He/she willingly imagines the same vocation also for the other sex, even if in this case they make a selection among aspects of altruism in favor of the attempts to understand one's own behavior or the behavior of others and the ability to maintain numerous personal friendships.

Observing all the results regarding the sex profiles, we can note a very interesting finding: both *home-helper* and *plumber*, as examples of *Blue-collar* careers, as well as both *professor* and *firefighter* as examples of *Grey-collar* careers, are jobs considerably affected by gender stereotypes. For the manager and doctor, it is different: they are professions free from gender stereotypes and much based on the altruistic personality. It could be read as a sign of a very good competence of adolescents' aspiration: when they address their ambition toward high professions, they tend not to be conditioned by gender stereotypes.

On the one hand, our results about analyzed profiles of *Blue-collar*, *home-helper* and *plumber*, and *Grey-collar jobs*, *professor* and *firefighter*, as examples of jobs much affected by

gender stereotypes and "*are consistent with recent literature that explains the persistence of the phenomenon of the educational professional segregation of gender, which tends to consider exclusively professional options connected to gender typing, reducing the range of potentially considerable options and will tend to influence, in both male and female students, the design of their professional future, above all during adolescence*." (Ramaci et al., 2017, p. 114). On the other hand, the attention reserved to high professions seems less conditioned by gender prejudices.

3.4 Gender stereotypes, altruism and availability to helping professions

Table 8: Altruism and gender stereotypes

	Helpfulness	**Openness**	**Int**	**Nur**	**Aff**	**Gender stereotypes**	**Female stereotypes**	**Male stereotypes**
Helpfulness		**						
Openness	**		**	**	**			
Int		**		**	**			
Nur		**	**		**	-*		-*
Aff		**	**	**				
Gender stereotypes				-*			**	**
Female stereotypes						**		**
Male stereotypes				-*		**	**	

Within Table 8 we see the ACL selected scales of altruism that are all linked with each other in a very significant way: there is a strong correspondence among *openness* (it is our name for the total number of adjectives checked as a sign of extroversion), *intraception* that measures the attempts to understand one's own behavior or the behavior of others, *nurturance* that is the ability to provide material or emotional benefits to others, and *affiliation* that measures the skill of seeking and maintaining numerous personal friendships. These results are consistent with previous research by Pavlov and Markov (2016): they noticed that "*social support or hypersensitivity towards others stands out as the dominant factor in the helping professions' pupils' and students' order of priority and that this type of altruism which is dominated by the willingness to care for others and the wish to help in difficult situations*" (p.48). Our scales are consistent with their factors as social support or to take care of others even if their sample prefer different jobs (teachers and social workers) compared with our sample. Only *succorance* remains independent from other selected scales of altruism: *succorance* that is the capacity to solicit sympathy, affection, or emotional support from others can be described as the received experience of altruism but does not seem to be linked to other aspects. Altruistic personality then tends to give and not to receive help. This finding refers in a very interesting way to the intra-psychic structure of altruistic personality that merits further research. Even gender stereotypes are strongly connected in a close correspondence between stereotypes related to the male and female gender thus confirming the considerable consistency of the distortion produced by social stigmatization.

The tendency towards the helping professions is significantly correlated with the willingness to describe oneself rather than to a general openness that could be interpreted as extroversion. This finding is consistent with research by Pavlov and Markov (2016) who claim: "*the more pronounced altruism among respondents from helping professions results from the fact that, prior to enrollment, the respondents were aware of the fact that their future professions often involve making sacrifices for other people*" (p. 56). On the other hand, our results show that there are no significant correlations between the tendency towards helping professions (helpfulness) and gender stereotypes: a fact that could be read in favor of altruism as a protective factor against gender stereotypes. This reading could be confirmed by the significant correlation, but inversely proportional one, between the need to protect others and gender stereotypes, in particular the stereotypes relating to males.

3.5 Careers and gender stereotypes

Table 9: Careers and gender stereotypes

	Gendered stereotypes	**Female stereotypes**	**Male stereotypes**	**Female workers**	**Female collars**	**Female high**	**Male workers**	**Male collars**	**Male high**	**Helpfulness**
Gendered stereotypes		**	**		*				*	
Female stereotypes	**		**		*					
Male stereotypes	**	**							-**	
Female Blue Collars					-**	-**	**			
Female Grey Collars	*	*		-**				**		
Female White Collars				-**					*	
Male Blue Collars				**				-**	-**	
Male Grey Collars					**		-**			**
Male White Collars	*		-**			*	-**			
Helpfulness								**		

In Table 9 we observe correlations between gender stereotypes on the one hand and correlation between careers, but in an inversely proportional way. Those who aspire to *Blue-collar* careers are inversely connected to both *Grey* and *White-collars*. So that those who aspire to *Grey* careers are inversely connected to *White* ones. It is the same both for male and female professions. The inverse correlations show a situation like this: *Blue out Grey out White*. In other words, those who aspire to one of the three do not aspire to the other two. We read these findings as proof of a sort of independent representation of three careers in the opinion of our adolescents. The same independence between careers is confirmed by the positive and significant correlation within the same career between female and male versions of it: female *Blue-collar jobs* correspond to male ones; female

Grey-collar jobs to male ones, female *White* and *Blue* to male ones. Nevertheless, the correlation for the *White* and *Blue* professions is slightly less significant.

There are interesting correlations between careers and gender stereotypes concerning female *Grey-collar jobs*: they correlate rather significantly to gender stereotypes and in particular to those related to the female. A fact that could be read as an extension of the gender stereotypes to certain jobs such as office workers, professors, nurses, which are popular as *Grey-collar jobs* socially suited to women. We also find correlations between male *White-collars* and gender stereotypes. But correlations become very significant and inversely proportional between male high professions and male gender stereotypes. A fact that could be read in favor of a certain independence of aspirations to high male careers from the prejudices typically attributed to males. Also interesting are the correlations between male *Grey-collar* careers and the propensity towards helping professions (helpfulness). This can be due to the positive social image of firefighters and law enforcement agencies.

Table 10: Gender differences in averages comparison about stereotypes, altruism and careers

	Boys	**Girls**	**P**
Altruism			
Helpfulness	23.42	28.93	0.05
Careers			
Female Blu collars	2.92	3.02	0.008
Stereotypes			
Male stereotypes	23.21	18.63	0.026

Analyzing table 10 we see, on the one hand, in a marked way, that boys support male stereotypes (male average 23,21; female average 18,63; P=.026) while girls confirm a tendency to traditional Blue-collar careers (male average 2,92; female average 3,02; P=.008). These results are consistent with literature: boys and girls choose gender dominated occupations (Mendez & Crawford, 2002; Weisgram et al., 2010) but women tend to hold more altruistic values. The average comparison between boys and girls shows differences in the dimension of altruism called *helpfulness* (male average 23,42; female average 28,93; P=.005): girls significantly more than boys describe themselves through their ability to solicit sympathy, thus demonstrating their tendency to empathy. Similarly to our results, Fortin (2006) found that:

> "*among workers […] women, by comparison with men, tend to hold more altruistic values: the percentage of women who state that 'Opportunities to be helpful to others or useful to society' is very important in selecting a career and that 'Living close to parents and relatives' is very important to them in their life exceed that of men by more than 10 percentage points. Women are also more likely to volunteer in philanthropic organizations and to work in the education and health care sectors*."(p. 24)

Table 11: School differences in averages comparison about altruism and careers

	Technology	Vocational	Humanities	P
Altruism				
Suc	1.90	0.05	0.83	0.009
Careers				
Female Grey Collars	1.30	0.93	0.73	0.002
Male Grey Collars	0.63	0.50	0.23	0.042
Male White Collars	1.05	0.65	1.30	0.006

Analyzing Table 11 concerning school differences, students of tech schools, mostly attended by male students, tend to attribute *Grey collar jobs* to women (technology average 1,30; vocational average 0,93; humanities average 0,73; P=.002), thereby confirming the previously observed male tendency to prefer businesswomen over female peers. We can see the same students also prefer to choose male careers such as *Grey collar jobs*, although this is less marked (technology average 0,63; vocational average 0.50; humanities average 0,23; P=.042), hence indicating their own most representative aspirations. High school students at schools focusing on humanities, attribute more high profile professions to men (technology average 1,05; vocational average 0.65; humanities average 1.30; P=.006), thus indicating their typical aspirations. With regards to altruism, we can see that they use *succorance* as the main descriptor of their personality, an indicator of their ability to solicit emotional support from others (technology average 1,90; vocational average 0,05; humanities average 0,83; P=.009). On the other hand, there appears to be less attention to emotional support in vocational students through their attitude to professional careers.

4. Conclusions

Altruism remains an 'evanescent' concept as it is difficult to define and is involved in many life spans, therefore it has been studied from different points of view. Research has dealt with the connection that exists between helping professions and altruism, altruism in relation to gender expectations, altruism in volunteer experiences, and finally the role of values (including altruism) in shaping professional interests. We have tried to combine some aspects of these studies by analyzing how the different school curricula and the gender of participants in our sample, affect the representation of professional profiles. We also wanted to investigate the presence of gender stereotypes related to professional careers and how careers are represented in relation to altruism. We tried to assess which professions are most associated with altruism in a vocational way compared to other gendered jobs. According to Pavlov and Markov (2016), it is important to develop research concerning tendency to help (which they examined in relation to the helping professions), by examining other variables such as gender, type of education, or success and failure at school. In this respect our research shares the need for extended research which would include other variables, such as comparisons among students from different schools. Our research is an exploratory study in this area in which we can also consider adolescents' motivations related to the choice of the school and gender differences.

Here our main findings:

- Concerning female professions, the two most frequent choices - beautician and professor -point out evidence female professional representation, distinguished between body care and teaching. On the other hand, male professions are typically characterized by fatigue and manual labour.
- Related to traditional careers, boys and girls share the opinion about *Blue collar* workers as being the first. However, boys show more social mobility with regards to female professions, while girls remain attached to tradition. Even if boys and girls choose gender dominated occupations, girls describe themselves through their ability to solicit sympathy, thus demonstrating their tendency to empathy.
- The comparison among three school paths confirms that *Blue collar workers* are considered to be a privileged career. However, humanities and vocational schools open up slightly to *Grey collar careers*, overall for women. In observing professional profiles, we find *home-helper* and *plumber* – *Blue collar* careers - as well as *Professor* and *firefighter* - *Grey collar* careers – to be considerably influenced by gender stereotypes. On the contrary, *manager* and *doctor* are professions less influenced by gender stereotypes and very much based on the altruistic personality. The case of adolescents aiming for high end professions could be seen as a positive sign of their ability to be less conditioned by gender stereotypes.
- The propensity choosing helping professions is significantly linked to a general *openness* that could be interpreted as extroversion. Moreover, such choice (helpfulness) is free from gender stereotypes: a fact that could be read in favor of altruism as a way of challenging. Another consistent finding with adolescents aiming for high end professions as a positive sign of their ability to be less conditioned by gender stereotypes.
- From a dynamic perspective about career choices, we noted on the one hand, the prevalence of male gendered stereotypes such as manual worker and on the other hand, the fact that humanities based schools support their students' ambitions to choose a higher profession. The notably low presence of *Grey collars* jobs could be interpreted as an aspect of teens' social representation of work divided into high and low, or *Blue* or *White* without the middle ground of *Grey* jobs.
- From a dynamic perspective concerning altruism, we noted a sort of relative independence of *succorance* scale from other scales. We interpreted this tendency as a distance between the capacity to solicit sympathy, affection, or emotional support from others and the willingness to receive help and support from others. Those with an altruistic personality seem willing to give help or support but not to receive it. Such a finding could enlighten the intra-psychic structure of the altruistic personality and would merit further researches.
- On the one hand boys strongly support male stereotypes. On the other hand, girls confirm a propensity for traditional careers both when they choose a caring profession and when they assert the female career as a typical worker. Our findings confirm that gender stereotypes remain strongly tied to the male and female gender, establishing the strict consistency of the distortion produced by

social stigmatization. It is consistent with Rudman's (Rudman & Phelan, 2010) research.

Our research has provided more information about the population of Italian adolescents by exploring the best time for them to make career choices based on their personal aspirations. However, it presents some limitations:

- the sample is useful only for an exploratory study;
- the number of boys and girls are not balanced;
- statistical analysis should be conducted in a deeper way.

Conflict of Interest Statement

The authors declare no conflicts of interests.

About the Authors

Savino Romani, Psychologist, Psychoanalyst. He teches Social and Groups Psychology - Degree of Sociology and Social Services University of Urbino "Carlo Bo"; assistant in Dynamic psychology Degree of Sciences and Technique of Psychology at the same University. Main topics of research activity are: Sport psychology, adolescence and relational disorder; Gender stereotypes and career choice of adolescents.

Sara Giammattei, Psychologist and Psychoanalyst, teaches Social and Groups Psychology - Degree of Sociology and Social Services University of Urbino "Carlo Bo". In addition to clinical activity, she has been working for years on projects organized to counteract school dropout. Main topics of research activity are: Adolescence and group dynamics, Gender stereotypes and career choice of adolescents.

Maria Pediconi, Research Teacher in Dynamic Psychology - Degree of Sciences and Technique of Psychology, Research member of Department of Economics Society Politics, University of Urbino "Carlo Bo". Psychoanalyst. Main topics of research activity: Impact of social media on teens daily life; Entrepreneurship and gender identity; Gender stereotypes and career choice of adolescents; Psychoanalysis and culture.

References

Aros, J. R., Henly, G. A., & Curtis, N. T. (1998). Occupational Sextype and Sex Differences in Vocational Preference-Measured Interest Relationships. *Journal of Vocational Behavior*, *53*(2), 227–242. https://doi.org/10.1006/jvbe.1997.1612

Bem, S. L. (1983). Gender Schema Theory and Its Implications for Child Development: Raising Gender-Aschematic Children in a Gender-Schematic Society. *Signs: Journal of Women in Culture and Society*, *8*(4), 598–616. https://doi.org/10.1086/493998

Beyard-Tyler, K., & Haring, M. J. (1984). Gender-related aspects of occupational prestige. *Journal of Vocational Behavior*. https://doi.org/10.1016/0001-8791(84)90006-X

Boschini, A., Dreber, A., von Essen, E., Muren, A., & Ranehill, E. (2018). Gender and altruism in a random sample. *Journal of Behavioral and Experimental Economics*, *77*, 72–77. https://doi.org/10.1016/j.socec.2018.09.005

Brañas-Garza, P. (2006). Poverty in dictator games: Awakening solidarity. *Journal of Economic Behavior & Organization*, *60*(3), 306–320. https://doi.org/10.1016/j.jebo.2004.10.005

Brañas-Garza, P. (2007). Promoting helping behavior with framing in dictator games. *Journal of Economic Psychology*, *28*(4), 477–486. https://doi.org/10.1016/j.joep.2006.10.001

Brañas-Garza, P., Capraro, V., & Rascón-Ramírez, E. (2018). Gender differences in altruism on Mechanical Turk: Expectations and actual behaviour. *Economics Letters*, *170*, 19–23. https://doi.org/10.1016/j.econlet.2018.05.022

Brown, D. (2002). *Career choice and development*. Jossey-Bass. http://www.books24x7.com/marc.asp?bookid=4835

Buss, D. M. (1995). Psychological sex differences: Origins through sexual selection. *American Psychologist*, *50*(3), 164–168. https://doi.org/10.1037/0003-066X.50.3.164

Čabarkapa, M., Marković, Z., & Petrović, N. (2017). Values and expectations for achieving professional goals among high school graduates. *European Journal of Education Studies*, *3*(8), 399–413. https://doi.org/10.5281/zenodo.834369#.X4azpTvSfp8.mendeley

Casey, M. B. (1996). Understanding Individual Differences in Spatial Ability within Females: A Nature/Nurture Interactionist Framework. *Developmental Review*, *16*(3), 241–260. https://doi.org/10.1006/drev.1996.0009

Charness, G., & Gneezy, U. (2008). What's in a name? Anonymity and social distance in dictator and ultimatum games. *Journal of Economic Behavior and Organization*. https://doi.org/10.1016/j.jebo.2008.03.001

Cosmides, L., & Tooby, J. (1994). Origins of domain specificity: The evolution of functional organization. In *Mapping the Mind* (pp. 85–116). Cambridge University Press. https://doi.org/10.1017/CBO9780511752902.005

Croson, R., & Gneezy, U. (2009). Gender Differences in Preferences. *Journal of Economic Literature*, *47*(2), 448–474. https://doi.org/10.1257/jel.47.2.448

Csikai, E. L., & Rozensky, C. (1997). "social work idealism" and students' perceived reasons for entering social work. *Journal of Social Work Education*. https://doi.org/10.1080/10437797.1997.10778891

Dutta-Moscato, J., Gopalakrishnan, V., Lotze, M., & Becich, M. (2014). Creating a pipeline of talent for informatics: STEM initiative for high school students in computer science, biology, and biomedical informatics. *Journal of Pathology Informatics*, *5*(1), 12. https://doi.org/10.4103/2153-3539.129448

Eagly, A. H. (1995). The science and politics of comparing women and men. *American Psychologist*, *50*(3), 145–158. https://doi.org/10.1037/0003-066X.50.3.145

Farrelly, D., Clemson, P., & Guthrie, M. (2016). Are Women's Mate Preferences for Altruism Also Influenced by Physical Attractiveness? *Evolutionary Psychology*, *14*(1), 147470491562369. https://doi.org/10.1177/1474704915623698

Farrelly, D., & King, L. (2019). Mutual mate choice drives the desirability of altruism in relationships. *Current Psychology*, *38*(4), 977–981. https://doi.org/10.1007/s12144-019-00194-0

Fortin, N. (2006). Greed, altruism, and the gender wage gap. *University of British Columbia*. https://faculty.arts.ubc.ca/nfortin/Fortinat8.pdf

Franken, M. W. (1983). Sex Role Expectations in Children's Vocational Aspirations and Perceptions of Occupations. *Psychology of Women Quarterly*, *8*(1), 59–68. https://doi.org/10.1111/j.1471-6402.1983.tb00617.x

Gibbons, J. L. (2000). Gender development in cross-cultural perspective. In T. Eckes & H. M. Trautner (Eds.), *The Developmental Social Psychology Of Gender* (pp. 389–415). Lawrence Erlbaum Associates, Publishers.

Hardie, J. H. (2015). Women's Work? Predictors of Young Men's Aspirations for Entering Traditionally Female-dominated Occupations. *Sex Roles*, *72*(7–8), 349–362. https://doi.org/10.1007/s11199-015-0449-1

Heppner, M. J., Lee, D., Paul Heppner, P., McKinnon, L. C., Multon, K. D., & Gysbers, N. C. (2004). The role of problem-solving appraisal in the process and outcome of career counseling. *Journal of Vocational Behavior*, *65*(2), 217–238. https://doi.org/10.1016/S0001-8791(03)00100-3

Hetty van Emmerik, I. J., & Jawahar, I. M. (2005). Lending a helping hand. *Career Development International*, *10*(5), 347–358. https://doi.org/10.1108/13620430510615283

Hutchings, K., Zhu, C. J., Cooper, B. K., Zhang, Y., & Shao, S. (2009). Perceptions of the effectiveness of training and development of 'grey-collar' workers in the People's Republic of China. *Human Resource Development International*, *12*(3), 279–296. https://doi.org/10.1080/13678860902982033

Hyde, J. S., & Plant, E. A. (1995). Magnitude of psychological gender differences: Another side to the story. *American Psychologist*, *50*(3), 159–161. https://doi.org/10.1037/0003-066X.50.3.159

Iacolinoa, C., Pellerone, M., Pacea, U., Ramacia, T., & Castorina, V. (2016). *Family functioning and disability: a study on Italian parents with disabled children*. 39–52. https://doi.org/10.15405/epsbs.2016.05.5

Jacobs, J. E., Chhin, C. S., & Bleeker, M. M. (2006). Enduring links: Parents' expectations and their young adult children's gender-typed occupational choices. *Educational Research and Evaluation*, *12*(4), 395–407. https://doi.org/10.1080/13803610600765851

Ji, P. Y., Lapan, R. T., & Tate, K. (2004). Vocational Interests and Career Efficacy Expectations in Relation to Occupational Sex-Typing Beliefs for Eighth Grade Students. *Journal of Career Development*, *31*(2), 143–154. https://doi.org/10.1007/s10871-004-0571-8

Johnson, M. K. (2001). Change in Job Values During the Transition to Adulthood. *Work and Occupations*, *28*(3), 315–345. https://doi.org/10.1177/0730888401028003004

Johnson, M. K. (2002). Social Origins, Adolescent Experiences, and Work Value Trajectories during the Transition to Adulthood. *Social Forces*, *80*(4), 1307–1340. https://doi.org/10.1353/sof.2002.0028

Jones, G., Taylor, A., & Forrester, J. H. (2011). Developing a Scientist: A retrospective look. *International Journal of Science Education*, *33*(12), 1653–1673. https://doi.org/10.1080/09500693.2010.523484

Kalokerinos, E. K., Kjelsaas, K., Bennetts, S., & von Hippel, C. (2017). Men in pink collars: Stereotype threat and disengagement among male teachers and child protection workers. *European Journal of Social Psychology*, *47*(5), 553–565. https://doi.org/10.1002/ejsp.2246

Kelly, S., & Dunbar, R. I. M. (2001). Who dares, wins. *Human Nature*, *12*(2), 89–105. https://doi.org/10.1007/s12110-001-1018-6

Kniveton, B. H. (2004). The Influences and Motivations on Which Students Base Their Choice of Career. *Research in Education*, *72*(1), 47–59. https://doi.org/10.7227/RIE.72.4

Kuhn, D., Nash, S. C., & Brucken, L. (1978). Sex Role Concepts of Two- and Three-Year-Olds. *Child Development*, *49*(2), 445–451. https://doi.org/10.1111/j.1467-8624.1978.tb02334.x

Laguía, A., García-Ael, C., Wach, D., & Moriano, J. A. (2019). "Think entrepreneur - think male": a task and relationship scale to measure gender stereotypes in entrepreneurship. *International Entrepreneurship and Management Journal*, *15*(3), 749–772. https://doi.org/10.1007/s11365-018-0553-0

Lamb, R., Annetta, L., Vallett, D., Firestone, J., Schmitter-Edgecombe, M., Walker, H., Deviller, N., & Hoston, D. (2018). Psychosocial factors impacting STEM career selection. *The Journal of Educational Research*, *111*(4), 446–458. https://doi.org/10.1080/00220671.2017.1295359

Liben, L. S., & Bigler, R. S. (2002). The developmental course of gender differentiation: Conceptualizing, measuring, and evaluating constructs and pathways. Abstrac. *Monographs of the Society for Research in Child Development*, *67*(2), VII–147. https://doi.org/10.1111/1540-5834.t01-1-00187

Liben, L. S., Bigler, R. S., & Krogh, H. R. (2001). Pink and Blue Collar Jobs: Children's Judgments of Job Status and Job Aspirations in Relation to Sex of Worker. *Journal of Experimental Child Psychology*, *79*(4), 346–363. https://doi.org/10.1006/jecp.2000.2611

Mackerer, C. R., Clay, G. A., & Dajani, E. Z. (1976). Loperamide binding to opiate receptor sites of brain and myenteric plexus. *The Journal of Pharmacology and Experimental Therapeutics*, *199*(1), 131–140.

McGee, J., & Stockard, J. (1991). From a child's view: children's occupational knowledge and perceptions of occupational characteristics. *Sociological Studies of Child Development*, *4*, 113–136.

Mendez, L. M. R., & Crawford, K. M. (2002). Gender-Role Stereotyping and Career Aspirations: A Comparison of Gifted Early Adolescent Boys and Girls. *Journal of Secondary Gifted Education*, *13*(3), 96–107. https://doi.org/10.4219/jsge-2002-375

Naffziger, C. C., & Naffziger, K. (1974). Development of sex role stereotypes. *The Family Coordinator*, *23*(3), 251–259. https://doi.org/10.2307/582762

Ngai, S. S., & Cheung, C. (2009). Idealism, Altruism, Career Orientation, and Emotional Exhaustion among Social Work Undergraduates. *Journal of Social Work Education*, *45*(1), 105–121. https://doi.org/10.5175/JSWE.2009.200700077

Parker, H., Cunningham, J., Chan, F., Thomas, K., Kaskel, L., & Kates, D. (1995). Prestige Ratings of Contemporary Occupations: Perceptions of High School Students and Implications for Counselors. *School Counselor*, *43*(1), 19–28. www.jstor.org/stable/23901424

Parker, H. J., Chan, F., & Saper, B. (1989). Occupational Representativeness and Prestige Rating: Some Observations. *Journal of Employment Counseling*, *26*(3), 117–131. https://doi.org/10.1002/j.2161-1920.1989.tb00942.x

Pavlov, S., & Markov, Z. (2016). Future profession choice and altruism. *Metodički Obzori/Methodological Horizons*, *11*(1), 41–59. https://doi.org/10.32728/mo.11.1.2016.03

Pellerone, M., Craparo, G., & Tornabuoni, Y. (2016). Relationship between Parenting and Cognitive Schemas in a Group of Male Adult Offenders. *Frontiers in Psychology*, *7*. https://doi.org/10.3389/fpsyg.2016.00302

Pellerone, M., Passanisi, A., & Bellomo, M. (2015). Identity development, intelligence structure, and interests: a cross-sectional study in a group of Italian adolescents during the decision-making process. *Psychology Research and Behavior Management*, 239. https://doi.org/10.2147/PRBM.S88631

Ramaci, T., Pellerone, M., Ledda, C., Presti, G., Squatrito, V., & Rapisarda, V. (2017). Gender stereotypes in occupational choice: a cross-sectional study on a group of Italian adolescents. *Psychology Research and Behavior Management*, *Volume 10*, 109–117. https://doi.org/10.2147/PRBM.S134132

Riaz, M. N. (1995). Career choices and occupational images. *Pakistan Journal of Psychological Research*, *10*(1–4), 13–26. file:///C:/Users/Admin/AppData/Local/Temp/159-Article Text-268-1-10-20200714-2.pdf

Rudman, L. A., & Phelan, J. E. (2010). The Effect of Priming Gender Roles on Women's Implicit Gender Beliefs and Career Aspirations. *Social Psychology*, *41*(3), 192–202. https://doi.org/10.1027/1864-9335/a000027

Sadler, P. M., Sonnert, G., Hazari, Z., & Tai, R. (2012). Stability and volatility of STEM career interest in high school: A gender study. *Science Education*, *96*(3), 411–427. https://doi.org/10.1002/sce.21007

Salgado, M. (2018). Gender-Biased Expectations of Altruism in Adolescents. *Frontiers in Psychology*, *9*, 1–18. https://doi.org/10.3389/fpsyg.2018.00484

Santilli, S., Nota, L., & Hartung, P. J. (2019). Efficacy of a group career construction intervention with early adolescent youth. *Journal of Vocational Behavior*, *111*, 49–58. https://doi.org/10.1016/j.jvb.2018.06.007

Savickas, M. L. (1995). Constructivist Counseling for Career Indecision. *The Career Development Quarterly*, *43*(4), 363–373. https://doi.org/10.1002/j.2161-0045.1995.tb00441.x

Savickas, M. L. (2005). The theory and practice of career construction. In S. D. Brown & R. W. Lent (Eds.), *Career development and counseling. Putting theory and research to work* (Hoboken, pp. 42–70).

Savickas, M. L., & Porfeli, E. J. (2012). Career Adapt-Abilities Scale: Construction, reliability, and measurement equivalence across 13 countries. *Journal of Vocational Behavior*, *80*(3), 661–673. https://doi.org/10.1016/j.jvb.2012.01.011

Sellers, N., Satcher, J., & Comas, R. (1999). Children's occupational aspirations: Comparisons by gender, gender role identity, and socioeconomic status. *Professional School Counseling*, *2*(4), 314–317. https://www.jstor.org/stable/42731996

Signorella, M. L., Bigler, R. S., & Liben, L. S. (1993). Developmental Differences in Children's Gender Schemata about Others: A Meta-analytic Review. *Developmental Review*, *13*(2), 147–183. https://doi.org/10.1006/drev.1993.1007

Unger, R. H. (1993). Alternative Conceptions of Sex (and Sex Differences). In *The Development of Sex Differences and Similarities in Behavior* (pp. 457–476). Springer Netherlands. https://doi.org/10.1007/978-94-011-1709-8_27

Weisgram, E. S., & Bigler, R. S. (2006). Girls and science careers: The role of altruistic values and attitudes about scientific tasks. *Journal of Applied Developmental Psychology*, *27*(4), 326–348. https://doi.org/10.1016/j.appdev.2006.04.004

Weisgram, E. S., & Bigler, R. S. (2007). Effects of Learning about Gender Discrimination on Adolescent Girls' Attitudes Toward and Interest in Science. *Psychology of Women Quarterly*, *31*(3), 262–269. https://doi.org/10.1111/j.1471-6402.2007.00369.x

Weisgram, E. S., Bigler, R. S., & Liben, L. S. (2010). Gender, Values, and Occupational Interests Among Children, Adolescents, and Adults. *Child Development*, *81*(3), 778–796. https://doi.org/10.1111/j.1467-8624.2010.01433.x

What Are Grey-Collar Workers? (2014). In *HR in Asia*. https://www.hrinasia.com/general/what-are-grey-collar-workers/

Wickman, F. (2012). *Working Man's Blues: Why do we call manual laborers blue collar?* Slate.Com. https://slate.com/business/2012/05/blue-collar-white-collar-why-do-we-use-these-terms.html

Wilson, F., Kickul, J., & Marlino, D. (2007). Gender, Entrepreneurial Self-Efficacy, and Entrepreneurial Career Intentions: Implications for Entrepreneurship Education. *Entrepreneurship Theory and Practice*, *31*(3), 387–406.

Wroblewski, M. T. (2019). What Is a Blue-Collar Worker and a White-Collar Worker? *Small Business - Chron.Com*. http://smallbusiness.chron.com/bluecollar-worker-whitecollar-worker-11074.html