Patton, Wendy A. and Creed, Peter (2007) The relationship between career variables and occupational aspirations/expectations for Australian high school adolescents. Journal of Career Development 34(2):pp. 127-148.

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The relationship between career variables and occupational aspirations/expectations for Australian high school adolescents

Abstract

This study surveyed 925 Australian high school students enrolled in grades 8-12 on measures of occupational aspirations, occupational expectations, career status aspirations and career status expectations, and tested the association between these variables and career maturity, career indecision, career decision-making self-efficacy, and career barriers. Adolescents generally aspired to/expected to work within a small range of RIASEC occupational categories. One third of students reported occupational aspiration/expectation discrepancies. These differed across gender, and across age for females, but not for males. Students who demonstrated both occupational and status aspiration and expectation discrepancies reported more career indecision, were less confident about making a career-related decision, and were less career mature. Students generally held higher occupational status aspirations than expectations, and males were more likely to choose professional occupations than females. Age differences were found for status expectations, but not for status aspirations.

Keywords: career aspirations, career expectations, career maturity, career indecision, career decision-making self-efficacy, career barriers

Adolescents' occupational aspirations and expectations have been viewed as significant determinants of both short-term educational and long-term career choices (Mau & Bikos, 2000; Schoon & Parsons, 2002), and as a reflection of adolescents' future social mobility and career self-concept (Rojewski, 1995). They have also been regarded as important career motivational variables, predictive of later career attainment levels (Chung, Loeb, & Gonzo, 1996). The critical role for occupational aspirations and expectations in the career development of adolescents is reflected in their integral position in most career theories and in the large body of research conducted over the last half century (Rojewski, 2005). Occupational aspirations have been conceptualised within career developmental theories as a major career developmental task for adolescents when seeking careers that are compatible with their self-concepts. Thus, as adolescents become more career mature they need to consider their abilities, interests and values in forming their occupational aspirations (Super, 1990). They should also adjust their occupational aspirations from initial fantasy aspirations to tentative, and then final, expectations, as they become increasingly aware of personal and contextual barriers impeding the attainment of these aspirations.

Super's work emphasized the importance of self-concept in an individual's aspirations, and connected the stabilising of aspirations in adolescence to increasing career maturity, defined as "an individual's readiness to cope with the developmental tasks for that stage of development" (Super, 1990, p. 213). Gottfredson (2002) proposed a similar process occurring in the last developmental stage of orientation to the inner self (age 14 onwards). She described two critical processes in the development of occupational aspirations, those of circumscription and compromise. Circumscription describes the process whereby adolescents limit their occupational

aspirations to a range of acceptable alternatives. Within this range, adolescents will also compromise their occupational aspirations, exchanging more ideal aspirations for more real expectations in terms of their eventual career choice.

More recently, there has been a greater emphasis in career theory on external factors that may impact on and constrain adolescents' occupational aspirations. Schoon and Parsons (2002) argued that the traditional emphasis on individual factors in the development of occupational aspirations does not sufficiently recognise the constraints of the social circumstances within which adolescents aspire, emphasising that for many adolescents, "vocational development depends more on existing opportunity structures than choice" (p. 262), a perspective also argued by others (Furlong & Biggart, 1999; Rojewski, 1995). There are systemic and structural barriers that limit the realisation of adolescents' occupational aspirations, with research indicating that the occupational aspirations of adolescents as young as thirteen years of age are constrained by their perceptions of local work opportunities (Furlong & Cartmel, 1995).

Current research on adolescent occupational aspirations (Schoon & Parsons, 2002) has been conceptualized within theories that more readily recognise the influence of contextual factors. In particular, social cognitive career theory (SCCT; Lent, Brown, & Hackett, 2002) emphasizes the psychological and social significance of demographic influences on adolescents' occupational aspirations. SCCT holds that occupational aspirations are influenced by the different socialization practices that adolescents are exposed to, as well as by adolescents' internalization of these different experiences. These influences include psychological, historical, cultural, economic and socio-political variables. SCCT focuses on the interaction between the adolescent's cognitive-personal variables and the contexts that may limit or encourage

personal agency in his/her career development. Specifically, SCCT views occupational aspirations and expectations as a reflection of the adolescent's career self-efficacy. The core variables in SCCT include person (self-efficacy, outcome expectations, interests, goals) and contextual (support, barrier) variables, which are posited to represent proximal influences on career outcomes, meaning that personal goals interrelate with person, contextual and learning factors to explain academic and career choice and attainment. While SCCT does not specifically name occupational aspirations, the construct is related closely to goals (Rojewski, 2005). SCCT is concerned with two types of goals, choice content goals, which refers to the type of activity domain, and performance goals, that is, the level or quality of performance to which one aspires in the given domain.

Major research foci

Gender has been the predominant variable in research on adolescents' occupational aspirations and expectations (Rojewski, 2005; Rojewski & Hill, 1998). The major focus of such research has been on the types, range and status levels of the occupations aspired to. There is considerable evidence that female adolescents aspire within a limited range of occupational choices, and that this range represents occupations that predominantly fall within Holland's (1997) Social type occupations (Meinster & Rose, 2001; Watson, Foxcroft, Horn, & Stead, 1997).

The status level of adolescents' occupational aspirations has also been a focus of research. Contradictory findings are again evident. Male adolescents have been found to aspire to high or low status male positions, while female adolescents have aspired to traditional female or high status male positions (Looker & McNutt, 1989). Conversely, female adolescents have been found to aspire more to high and low

occupational status levels, with males aspiring more to moderate status occupations (Rojewski & Yang, 1997).

A third research focus has been on the discrepancies between adolescents' occupational aspirations and expectations. Most research indicates that circumscription of occupational aspirations does occur, and is particularly likely to occur in early adolescence (Rainey & Borders, 1997). There have been several gender-related findings here, with Davey and Stoppard (1993) reporting that female adolescents evidence less gender traditional occupations in their aspirations than in their expectations. The discrepancy between occupational aspirations and expectations is also evident in the status level of the occupations aspired to. While Nova Scotian female adolescents aspired to high status occupations, 40% lowered these aspirations when asked about their expectations (Day, 1990). Similarly, Canadian female adolescents evidenced high educational and occupational aspirations but expected limits to what they could achieve in the professional occupations they aspired to (Wall, Covell, & MacIntyre, 1999). Differences between occupational aspirations and expectations have not been limited to females, with both male and female Scottish adolescents expecting lower status occupations than the managerial and professional occupations to which they aspired (Furlong & Cartmel, 1995). Some research indicates a lack of gender differences, with male and female Canadian (Armstrong & Crombie, 2000) and US adolescents (Rojewski & Hill, 1998) equally likely to have discrepant aspirations and expectations.

Other variables

Other cognitive-personal and contextual variables that may impact on adolescents' occupational aspirations and expectations seem less well researched, including socioeconomic status, long identified as an influential variable (Thomas, 1976).

Research that has been conducted indicates that higher socioeconomic status levels have a positive effect on adolescent aspirations (Lee, 1984), while lower socioeconomic status levels reflect a perceived lack of parental support for adolescent occupational aspirations (McWhirter, Hackett, & Bandalos, 1998) or a circumscription of future occupational aspirations in order to accommodate perceived limited local work opportunities (Furlong & Cartmel, 1995).

Adolescents' academic performance, as well as the school system, has also been examined in relation to occupational aspirations and expectations. Adolescents who experienced minimal risk of academic failure expected occupations of greater prestige (Rojewski, 1995), while adolescents who experienced substantial risk were more likely to report lower occupational aspirations and higher aspiration-expectation discrepancies (Rojewski & Hill, 1998). Similarly, adolescents who were confident of their academic ability evidenced a higher correlation between their occupational aspirations and expectations (Furlong & Biggart, 1999). The limited research that has considered grade level has consistently found that occupational aspirations are relatively established at Grade 8 level and remain stable over successive grade years (Furlong & Biggart, 1999; Rojewski & Yang, 1997). In related research, Heckhausen and Tamasik (2002) established that German adolescents adjusted their occupational aspirations as they approached the "deadline" of Grade 10, when students would actively apply for apprenticeship training. This research validates a deadline model of developmental regulation where school educational choices translate into the reality of school to work transition.

One area that has received little attention is the potential relationship between occupational aspirations and expectations and other career developmental constructs. Rojewski's (2005) summary of the field emphasized the need to conduct research into

these complex relationships, in particular where they have been identified theoretically. For example, SCCT has identified multiple variables that centre on academic and vocational interests, choice content, and performance and satisfaction outcomes. However, there has been no attempt to test SCCT constructs with occupational aspirations and expectations. Occupational aspirations and expectations have been regarded as reflections of career self-efficacy in SCCT (Lent et al., 2002; Rojewski & Hill, 1998), with Post, Williams, and Brubaker (1996) hypothesizing that higher levels of self-efficacy would relate to less gender traditional occupational aspirations. However, Lapan, Adams, Turner, and Hinkelman (2000) reported that both male and female seventh graders expressed higher self-efficacy when they believed that their aspirations matched their gender.

Cook et al. (1996) argued that adolescents' expression of their occupational aspirations and expectations reflected the interplay among context, person, and processes linking context and person. In SCCT thinking, occupational aspirations and expectations are embedded not only in personal developmental factors but also in the proximal and distal influences of the family, school policies, opportunity structure, and demographic factors.

Similarly, given the theoretical relevance of the career maturity construct to occupational aspirations and post-school outcomes (Super, 1990), and the empirical support for this proposition (Patton, Creed, & Muller, 2002), it is important to include this construct in the analyses. Further, career indecision is viewed as closely related to career maturity, and is viewed as a normal developmental phase within the career decision-making process (Osipow, 1999). A number of researchers (e.g., Betz & Voyten, 1997) have suggested that self-efficacy is a direct correlate of indecision although this relationship was not found in a study reported by Creed, Patton, and

Prideaux (2007). It is therefore important that these career constructs be examined in addition to the demographic, cognitive-personal and contextual variables that have received so much attention in the study of occupational aspirations.

The present study

While considerable work has been done to increase the development and delivery of career programs and related support for Australian adolescents (Patton, 2005), to date there is no comprehensive system of career education for all students in high schools. The mismatch between policy and practice is similar to many other countries. In addition, there has been no published research on occupational aspirations/expectations of Australian adolescents. Understanding how aspirations develop, and the role they play in educational and career choices offer important clues about career development and possible information about the ways that we might be able to influence early educational experiences through school-based and other interventions during adolescence. The present exploratory research attempts to address some of the gaps in the broader literature identified by Rojewski (2005) by testing the nature of the relationships between adolescent occupational aspirations, expectations and aspiration/expectation discrepancies and traditional research variables of gender and occupational status, and extending this examination to include career development constructs, namely career decision status, career decision-making self-efficacy, the perception of barriers, and the developmental constructs of career maturity and career indecision.

Method

Participants

Participants were 925 high school students, almost exclusively Caucasian, enrolled in Grades 8-12 in two suburban high schools situated in lower-middle level

socioeconomic areas of Brisbane and the Gold Coast, Australia. There were 535 (57.8%) females and 390 (42.2%) males, with a mean age of 15.25 years (*SD* = 1.48), and with 237 (25.6%) in Grade 8, 179 (19.4%) in Grade 9, 186 (20.1%) in Grade 10, 178 (19.2%) in Grade 11, and 145 (15.7%) in Grade 12. Six students (.6%) reported they typically achieved an academic grade of Very Low Average, 16 (1.7%) reported Low Average, 32 (3.5%) reported Low Average Plus, 209 (22.6%) reported Satisfactory, 233 (25.2%) reported Satisfactory Plus, 243 (26.3%) reported High Achievement, 138 (14.9%) reported High Achievement Plus, and 48 (5.2%) reported Very High Achievement. Based on students' reports of parents' education level (we used father's education level, and where this was not reported, used mother's or guardian's level), 47 students (5.1%) reported their parents had completed primary school, 349 (37.7%) reported them completing Year 10, 350 (37.8%) reported them completing Year 12 or equivalent, and 179 (19.4%) reported them having a tertiary education.

Measures

Occupational Aspirations were assessed using two questions similar to those devised by Looft (1971) that tapped aspired occupation and aspired status. The first question used an open-ended response format and asked, "If you were completely free to choose any job, what would you desire most as a lifetime job?". Students' jobs were then classified according to Holland's (1997) coding system as Realistic, Investigative, Artistic, Social, Enterprising or Conventional occupations using the Dictionary of Holland Occupational Codes (Gottfredson & Holland, 1996). Thus, jobs such as electrician, truck driver and caterer were coded as Realistic, whereas jobs such as nurse, teacher and counsellor were coded as Social. The second question asked, "What kind of job would you like to have when you finish your education: *An*

unskilled/ semi-skilled/ skilled/ semi-professional/ professional job". Sample occupations were provided for each status level (e.g., jobs of clerical worker, fire fighter, police officer, hairdresser and electrician were indicated as typical for the Skilled category). Status aspiration was coded 1-5, with higher scores indicating higher status aspirations.

Occupational Expectations were assessed using two similar questions tapping expected occupation and expected status: "Sometimes we are not able to do what we want most. What job do you <u>really expect</u> to have most of your life?", and "What kind of job do you <u>really expect to have</u> when you finish your education: *An unskilled/ semi-skilled/ skilled/ semi-professional/ professional job?*". Responses to these two questions were coded in the same way as responses for the occupational aspirations questions, for Holland coding and status.

Occupational Discrepancies. Students were coded as either discrepant or non-discrepant for their RIASEC coding and for status. For RIASEC discrepancy/non-discrepancy, a student was categorised as non-discrepant if he/she reported the same aspired and expected RIASEC coding, and categorised as discrepant if he/she reported different aspired and expected codings. In a similar way, a student was categorised as status non-discrepant if he/she reported the same status aspiration and expectation levels, and categorised as discrepant if he/she reported different status aspired and expected levels. These criteria are similar to those reported by Davey and Stoppard (1993) and Armstrong and Crombie (2000).

Career Maturity. The Australian version of the Career Development Inventory (CDI-A; Lokan, 1984) was used as a measure Career Maturity. The CDI-A has 72 items and was designed for students in Years 8-12. It measures several aspects of career development, including career planning orientation, awareness and use of

resources, knowledge of the career development process, knowledge of the world of work, and knowledge and use of decision making principles. Four subscales, two composite scales and a total score can be calculated for the CDI-A. The two composite scales are reported in this study. The first is the 36-item Career Development Attitude scale, which is a composite of the 20-item Career Planning subscale and the 16-item Career Exploration subscale (Sample item = "How much time and thought have you given to choosing a regular adult occupation?", using a 5-item Likert-like response format with endpoints of *I give less time and thought to this than most of my classmates*, and *I give more time and thought to this than most of my classmates*). Individual item scores are tallied to give a total score, with higher scores indicating a more career mature attitude. The second is the 36-item Career Development Knowledge scale, which is a composite of the 24-item World of Work Information subscale and the 12-item Decision-Making subscale (Sample item = "Robin's interest in and skill at helping others has become her most important self-picture. Which occupation should Robin probably not be considering?", with four response options of *nurse's aide/recreation worker/caretaker/teacher's aide*). Items are scored as either correct or incorrect and correct responses are tallied to give a total score, with higher scores indicating greater career knowledge. Sound psychometric properties are reported in the Australian manual (Lokan, 1984), which represent similar properties to those reported for the US normed inventory (Pinkney & Bozik, 1994). Internal reliability coefficients for a 14 year old sample ranged from .73-.90, and .65-.90 for a Year 11 sample. Construct validity was indicated by appropriate age differences in scores, with older students scoring higher than younger students. Inter-scale correlations were between .50 and .70, and a factor analysis yielded the expected

two factors. The internal reliability coefficients calculated in the present study were .91 (Career Development Attitude) and .83 (Career Development Knowledge).

Career Indecision. The Career Decision Scale (Osipow, Carney, Winer, Yanico, & Koschier, 1976) was used to measure decision-making readiness. The 19-item inventory consists of two subscales (the 16-item Indecision subscale, which provides a measure of career indecision, and the 2-item Certainty subscale, which indicates the degree of certainty felt in having made a career decision), and an open-ended question that allows respondents to put their concerns in their own words. Only the Indecision subscale is reported in this study. Students were asked to respond to items, such as "Several careers have equal appeal to me. I'm having a difficult time deciding among them", using a 4-point Likert-like response format with endpoints of *Not at all like me* and *Exactly like me*. Individual item responses are tallied to provide a total score, with higher scores indicating more indecision. Internal consistency coefficients have consistently been reported as satisfactory (e.g., Kelly & Lee, 2001; Guerra & Braungart-Rieker, 1999). Two-week test-retest reliability coefficients have been shown to be high (Osipow, 1987). Concurrent (Hartman & Hartman, 1982), construct (Hartman, Fuqua, & Hartman, 1983) and predictive validity (Hartman, Fuqua, Blum, & Hartman, 1985) have all been adequately demonstrated. For the present study, the internal reliability coefficient was .89.

Career Decision-making Self-efficacy. The 25-item short version of the Career Decision-Making Self-Efficacy scale (Betz, Klein, & Taylor, 1996) was used to measure confidence regarding ability to make career-oriented decisions. Students were asked to indicate their level of confidence on a five-point scale, with endpoints of *No confidence at all* to *Complete confidence* to questions such as "How confident are you that you could choose a career that will fit your interests". Individual item

scores are tallied to give a total score, with higher scores indicating more decision-making efficacy. The scale was developed to measure the career choice competencies that Crites (1961) proposed as relevant for the career decision-making process. It is typically used as a unidimensional test and has been found to be highly reliable and to have satisfactory validity (Betz et al., 1996; Creed, Patton, & Watson, 2002; Gloria & Hird, 1999; Watson, Brand, Stead, & Ellis, 2001). The internal reliability in the present study was .95.

Career Barriers. Students completed a modified Perceived Barriers Scale originally devised by Howell, Frese, and Sollie (1977). They were asked, "How much effect do you think each of the following things will have in keeping you from getting the job you desire?", for nine barriers of "lack of interest by your parents, the school you are attending, not enough money to attend college or university, your not wanting to move, national shortage of 'good' jobs, local shortage of 'good' jobs, no college or university nearby, lack of information about existing opportunities, and personal intelligence". The scale was modified to make it more suitable to Australian students (e.g., "technical school and college" was replaced with "college and university", and the item indicating race as a barrier was deleted because of the homogenous nature of the participants). Students were asked to indicate the level of effect on a 4-item response format with markers of *no effect/ a little effect/ some effect/ very much effect*. Individual item scores were tallied to provide a total, where higher scores indicated more perceived barriers. Howell et al. reported sound internal reliability for the original scale and assessed validity by testing its relationship to social origins, status and career plans. Other studies have found the scale to be reliable and to relate to other career variables in the expected direction (e.g., Creed, Conlon, & Zimmer-

Gembeck, In press). The internal reliability coefficient for the scale in the present study was .81.

Procedure

Data were collected as part of a larger study when students across Grades 8-12 were surveyed (see Patton & Creed, 2001). The students in the present study were in Grades 8-12 in the two secondary schools that participated in the study. Classroom teachers, who had been provided with standard instructions regarding the administration protocol, administered the survey forms in the students' home classrooms. One whole class period was allocated to the assessment, which allowed students to complete the survey in good time. Scales were counterbalanced to avoid order of presentation confound. Data were collected on demographic questions (i.e., age, gender, grade, school achievement, parents' education) and were administered questions and scales tapping occupational aspirations, expectations, maturity, indecision, self-efficacy and barriers. A copy of the full scale is available from the second author.

Results

RIASEC Coded Aspirations, Expectations and Discrepancies

RIASEC Aspirations and Expectations. The RIASEC categories of Investigative (26.6%), Social (25.5%) and Realistic (21.6%) were most frequently aspired to, while Enterprising (6.6%) and Conventional (2.8%) were aspired to least. Social (32.4%), Realistic (23.4%) and Investigative (18.7%) categories were most frequently expected, with Enterprising (6.7%) and Conventional (8.1%) least expected. Aspirations differed across grades, $\chi^2(20) = 38.10$, $p = .009$, with students in the lower grades being less likely than students in the higher grades to aspire to Enterprising and Artistic occupations and more likely to aspire to Realistic occupations. Expectations

also differed across grades, $\chi^2(20) = 48.15$, $p < .001$. Students in the lower grades were less likely than students in the higher grades to expect Conventional and Enterprising occupations and more likely to expect Realistic occupations.

When males were compared with females, overall, $\chi^2(5) = 141.46$, $p < .001$, and at each year, females aspired to different RIASEC categories than males. Females were less likely to aspire to Realistic occupations, and more likely to aspire to Investigative, Artistic and Social occupations. Similarly, females held different expectations than males, $\chi^2(5) = 135.02$, $p < .001$, with females being less likely to expect Realistic occupations, and more likely to expect Artistic and Social occupations. Aspirations or expectations did not differ across the years for males, whereas females in the lower grades were more likely than females in the higher grades to aspire to Investigative and Conventional occupations and less likely to aspire to Artistic and Enterprising occupations. Females in the lower grades were also less likely than females in the higher grades to expect Enterprising and Conventional occupations and more likely to expect Realistic occupations.

RIASEC Discrepancies. Three hundred and eleven students (33.6%; females = 199 or 64%) reported aspirations different from their expectations. We used a discriminant function analysis to test which variables were associated with being discrepant. Career Development Attitude, Career Indecision, Career Decision-making Self-efficacy and Gender, all of which were significantly associated with being discrepant, were included in this analysis (Occupational Status Expectations, Aspirations and Discrepancies were not included even though they were significantly correlated as they were not independent of RIASEC Discrepant; see Table 1 for summary data, and Table 2 for correlations). One discriminant functions was calculated, $\Lambda = .96$, $\chi^2(4) = 35.46$, $p < .001$, which was able to successfully classify 65.9% of the cases correctly

(cross-validation = 65.7%), indicating an improvement on chance (of 50%). The most important discriminating variables (with standardised coefficients $\geq$ 0.33; Tabachnick & Fidell, 1996) were, in order of importance, Career Indecision, Career Decision-making Self-efficacy, Career Development Attitude and Gender. RIASEC discrepant students were more likely to be female, have more indecision, less efficacy and less career planning/exploration, compared to non-discrepant students. Summary data are reported in Table 3.

Insert Tables 1, 2 and 3 about here

Status Aspirations, Expectations and Discrepancies. Students held higher occupational aspirations than expectations, $\chi^2(16) = 1012.61$, $p < .001$. Males were more likely to aspire to professional jobs and less likely to choose semi-professional jobs than females, $\chi^2(4) = 34.65$, $p < .001$, but did not differ from females on occupational expectations. There were no significant differences for aspirations across grades, but as students got older there was a decline in expectations for professional jobs and an increased preference for semi-professional ones, $\chi^2(16) = 32.23$, $p = .009$. This was more marked for males than females.

Status Aspirations. We conducted a discriminant function analysis to test which variables were associated with students' status aspirations. As few students selected the Unskilled category (11; 1.2%), this category was collapsed into the Semi-skilled category, and the analysis was conducted using four levels of Semi-skilled, Skilled, Semi-professional and Professional. Career Development Attitude, Knowledge, Indecision, Decision-making Self-efficacy and School Achievement were associated with Aspirations, and were included as predictor variables (Status Expectations and Discrepancies were also associated but were not included as they were not independent of Aspirations). Two significant functions were calculated, with $\Lambda = .84$,

$\chi^2(15) = 166.34$, $p < .001$, for the first, and $\lambda = .98$, $\chi^2(8) = 18.97$, $p = .02$, for the second. The two functions were able to successfully classify 51.4% of cases correctly (cross-validation = 50.7%), an improvement on chance (of 25%). The first function discriminated most strongly between the Semi-skilled/Skilled groups and the Professional group. The second function differentiated most strongly between the Semi-skilled group and the Semi-professional group. High achieving students with high levels of self-efficacy and low levels of indecision were more likely to aspire to a professional versus a semi-skilled/skilled occupation, while students with more career knowledge were more likely to aspire to semi-professional versus skilled occupations. Summary data are reported in Table 3.

Status Expectations. We conducted a further discriminant function analysis to test which variables were associated with students' status expectations. Again, as few students selected the Unskilled category (7; 0.8%) this was collapsed into the Semi-skilled category. Career Development Attitude, Knowledge, Indecision, Decision-making Self-efficacy and School Achievement were associated with Expectations, and were included as predictor variables. Two significant functions were calculated, with $\Lambda = .77$, $\chi^2(15) = 239.32$, $p < .001$, for the first, and $\lambda = .97$, $\chi^2(8) = 26.14$, $p = .001$, for the second. The two functions were able to successfully classify 45.9% of cases correctly (cross-validation = 44.8%), an improvement on chance (of 25%). The first function discriminated most strongly between the Semi-skilled/Skilled groups and the Professional group. The second function differentiated most strongly between the Semi-skilled and the Semi-professional group. High achieving students with high levels of self-efficacy and planning/exploration were more likely to expect a professional versus a semi-skilled/skilled occupation, while students with more career

knowledge were more likely to expect a semi-professional versus a skilled occupation. Summary data are reported in Table 3.

Status Discrepancies. Six hundred and thirty students (68.1%) expected the same status occupation to the one they aspired to, whereas 295 students (31.9%) expected a different status job to the one they aspired to. We again used a discriminant function analysis to test which variables were associated with being status discrepant. Career Development Attitude, Indecision and Decision-making Self-efficacy were included as predictors. One discriminant functions was calculated, $\Lambda = .95$, $\chi^2(3) = 50.47$, $p < .001$, which was able to successfully classify 66.8% of the cases correctly (cross-validation = 66.7%), indicating an improvement on chance (of 50%). The most important discriminating variables were, in order of importance, Career Indecision, Career Development Attitude and Career Decision-making Self-efficacy, with status discrepancy being associated with more indecision and less efficacy and career planning/exploration. Summary data are reported in Table 3.

Discussion

Data from the present study found that adolescents generally aspired to and expected to work within a small range of RIASEC (Holland, 1997) occupational categories (Investigative, Social, Realistic), and especially rejected Conventional and Enterprising careers as aspirations and expectations. As found elsewhere (Betz & Fitzgerald, 1987; Gottfredson & Holland, 1975), the largest proportion of males aspired to and expected jobs in the Realistic category, with the equivalent proportion for females relating to the Social category. There were also significant differences across age in the frequency of response to the various occupational codes. However, contrary to suggestions as to the stability of aspirations and expectations in

adolescence (Rojewski, 1995; Rojewski & Yang, 1997), overall, and at each year, females differed from males and demonstrated significance differences across years in the categories of aspirations and expectations. Males did not differ across year levels at all. These data may reflect the reduced effect of gender traditionality on younger females' occupational aspirations and expectations in the 21st century (as reported by Reyes, Kobus, & Gillock, 1999), although they are also likely to reflect Gottfredson's (2002) processes of circumscription and compromise. Longitudinal studies will need to be undertaken to further explore the rationale behind these findings.

One third of the students reported a RIASEC coded aspiration which differed from their stated expectation. In accordance with previous findings (Davey & Stoppard, 1993), these RIASEC discrepant students were more likely to be female. RIASEC discrepant students, compared to non-discrepant students, also demonstrated greater career indecision, were less confident about making a career-related decision and less career mature.

When exploring occupational status aspirations and expectations, students generally held significantly higher occupational status aspirations than occupational status expectations, which is consistent with previous studies (e.g., Davey, 1993). Gender differences were evident with males more likely than females to choose professional occupations and less likely to choose semi-professional occupations. No age differences were found for status aspirations. However, these were evident for status expectations, with a decline in expectations for professional status occupations, and an increase in expectations for semi-professional occupations, as students became older. This effect was more marked for males than females, perhaps representing the earlier circumscription process of females.

Consistent with the aim of the present study to examine the relationships between career constructs and occupational aspirations and expectations, the discriminant function analyses demonstrated that it was possible to distinguish status aspiration and status expectation levels based on school achievement, career decision-making self-efficacy, career indecision, and career development knowledge and attitude (career maturity). These findings are in line with those on academic ability reported by Rojewski (1995) and Furlong and Biggart (1999), and highlight the importance of other career variables when considering occupational aspirations and expectations.

One unexpected finding was that career barriers were not associated with status aspirations, expectations, or discrepancies. There seems no strong case for perceived career barriers to be related to career aspirations, as these are idealised career preferences made when limitations are suspended (Rojewski, 2005). However, this is not the case for expectations, which are realistic appraisals of future directions once opportunity, financial and ability limitations have been factored in (Rojewski), or for discrepancies, which reflect the gap between idealised and realistic views given perceived limitations (Gottfredson (2002). One possible explanation for these results is that the barriers scale utilised in the present study did not tap into the barriers that were important for the compromise of aspirations. Future studies could profitably identify the salient limiters in the compromise process over and above the person-cognitive ones identified here (notably, career decision-making self-efficacy, indecision and planning/exploration), as these have both theoretical and practical importance.

While the study findings generally are consistent with previous literature, the inclusion of career development constructs in the present study adds an important dimension to our understanding of adolescent career development. In particular, the

findings demonstrate the relevance of investigating occupational aspirations and expectations with regard to the career development constructs of career maturity, career indecision, and career decision-making self-efficacy. Both the developmental career theories that emphasise the importance of career maturity in career decision-making (Super, 1990), and the circumscription and compromise in aspirations (Gottfredson, 2002), have explanatory relevance in the current findings. The relationship between academic ability, interests and aspirations identified by SCCT, and the salience of the self-efficacy construct, is also relevant (Lent et al., 2002).

In addition, the relationship between career maturity, career decision status, career decision-making self-efficacy and occupational aspiration-expectation discrepancy points to important implications for career development practice with adolescents. Career programs need to assist young people to fully explore all aspects of educational and occupational opportunities within a developmental and socio-cultural context (Lent et al., 2002; Schoon & Parsons, 2002; Super, 1990, 1996). In addition, the stability of aspirations and expectations by adolescence suggests that this work needs to commence in earlier grades for both females and males, and needs to be comprehensive and not the just-in-time ad-hoc approaches so often included in many schools (Patton, 2005). Given the important connections with career maturity, career indecision, and career decision-making self-efficacy, programs need to be targeted at these areas. Prideaux, Patton, and Creed (2002) reported on a program which was theoretically derived from SCCT and which focused on addressing these constructs. These authors reported career maturity gains for females and males, and levels of career indecision were reduced. Just as it is important to provide a balanced view in relation to location and status of jobs availability, so too should career educators be aware of positive and negative influences on children's and adolescents' occupational

aspirations and expectations (Gottfredson, 2002; Wahl & Blackhurst, 2000). Adolescents need to be introduced overtly to the differences between what is desired and what is realistic in the context of learning about the world of work and themselves.

Rojewski (2005) called for additional work to refine existing frameworks used to understand occupational aspirations and expectations. The current study attempted to combine constructs derived from a number of theoretical frameworks to address this. The generalisability of the findings are limited given they were derived from small samples in each year level and from one local area in Australia. However, the national education context in relation to career planning is very comparable across Australian states and territories and the measures used in the present study have been shown to produce similar findings to those reported in other countries (e.g., Patton & Creed, 2001). Further research needs to explore the relationship of these career development constructs with occupational aspirations and expectations. Such research also needs to be longitudinal to fully explore the pathways of these relationships, and it needs to be included in evaluation studies of career development programs.

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Table 1
Summary data for RIASEC Discrepant/Non-discrepant and Total; N = 925

		RIASEC Discrepant			RIASEC Non-discrepant			Total		
Variable		*N*	*M*	*SD*	*N*	*M*	*SD*	*N*	*M*	*SD*
Career Development Attitude	M	112	98.60	17.93	278	102.39	17.48	390	101.30	17.67
	F	199	101.71	18.63	336	105.82	18.54	535	104.30	18.66
	T	311	100.59	18.41	614	104.27	18.14	925	103.03	18.30
Career Development Knowledge	M	112	20.48	6.90	278	20.31	6.39	390	20.36	6.53
	F	199	22.42	5.36	336	24.06	5.60	535	24.20	5.58
	T	311	23.00	6.34	614	22.36	6.25	925	22.58	6.29
Career Indecision	M	112	33.29	8.38	278	31.69	9.51	390	32.15	9.22
	F	199	31.74	8.07	336	27.66	9.17	535	29.18	8.98
	T	311	32.30	8.21	614	29.49	9.53	925	30.43	9.20
Career Decision-making Self-efficacy	M	112	87.33	16.71	278	89.19	17.44	390	88.65	17.23
	F	199	84.45	16.78	336	90.64	18.16	535	88.34	17.90
	T	311	85.49	16.79	614	89.98	17.84	925	88.47	17.61
Career Barriers	M	112	21.32	5.40	278	21.25	5.77	390	21.27	5.66
	F	199	22.06	5.19	336	21.50	5.99	535	21.71	5.70
	T	311	21.79	5.27	614	21.39	5.89	925	21.52	5.69

Table 2
Bivariate correlations across all variables; N = 925

Variables	1	2	3	4	5	6	7	8	9	10	11	12
1. Career Development Attitude	-	.30***	-.33***	.02	.56***	-.10**	.15***	.25***	-.12**	.20***	.34***	-.08*
2. Career Development Knowledge		-	-.45***	-.07*	.29***	.05	.22***	.22***	.01	.23***	.32***	-.30***
3. Career Indecision			-	.16***	-.41***	.14***	-.14***	-.21***	.08*	-.23***	-.14***	.16***
4. Career Barriers				-	-.06	.03	.00	-.00	.01	-.02	-.01	-.04
5. Career Decision-making Self-efficacy					-	-.12***	.21***	.30***	-.12**	.31***	.07*	.01
6. RIASEC Discrepant						-	-.04	-.09**	.07**	.03	.06	-.09**
7. Occupational Status Aspirations							-	.69***	.40***	.34***	-.01	.02
8. Occupational Status Expectations								-	-.39***	.39***	-.01	.04
9. Occupational Status Discrepant									-	-.06	-.01	-.02
10. School Achievement										-	-.12***	-.10**
11. Grade											-	-.12***
12. Gender												-

Note. * = $p < .05$; ** = $p < .01$; *** = $p < .001$

Table 3

Structure matrix for analyses predicting RIASEC Discrepant, Status Aspirations, Status Expectations and Status Discrepant, containing pooled within-groups correlations between discriminating variables and standardized canonical discriminant function; N = 925

Variable	Function 1 [a]	Function 2	Function 3
RIASEC Discrepant [b]			
Career Indecision	-.74	-	-
Career Decision-making Self-efficacy	.62	-	-
Career Development Attitude	.48	-	-
Gender	.45	-	-
Occupational Status Aspirations [c]			
School Achievement	.89*	-.24	.01 [d]
Career Decision-making Self-efficacy	.51*	-.36	.33
Career Indecision	-.34*	.05	.22
Career Development Knowledge	.56	.64*	-.31
Career Development Attitude	.37	.27	.78*
Occupational Status Expectations [e]			
School Achievement	.84*	-.04	.17 [d]
Career Decision-making Self-efficacy	.64*	-.34	-.12
Career Development Attitude	.50*	.21	.32
Career Development Knowledge	.44	.68*	-.56
Career Indecision	-.43	.16	.67*
Occupational Status Discrepant [f]			
Career Indecision	.87	-	-
Career Development Attitude	-.71	-	-
Career Decision-making Self-efficacy	-.70	-	-

[a] = Variables ordered by absolute size of correlation within function

[b] = Group centroids = .14 (Non-discrepant), -.28 (Discrepant)

[c] = Group centroids: Function 1 = -.87 (Semi-skilled), -.56 (Skilled), (.03) Semi-professional, .32 (Professional); Function 2 = -.17, .03, .23, -.08

[d] = Function 3 not significant

[e] = Group centroids: Function 1 = -.78 (Semi-skilled), -.55 (Skilled), (.08) Semi-professional, .57 (Professional); Function 2 = -.16, -.04, .25, -.13

[f] = Group centroids = -.16 (Non-discrepant), .35 (Discrepant)