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The Role of Social Context and Serendipitous Events in Career Decision Making

JIM E.H. BRIGHT*, ROBERT G.L. PRYOR, SHARON WILKENFELD AND JOANNA EARL
*University of New South Wales, School of Psychology, Sydney 2052, Australia (*Author for correspondence: E-mail: J.Bright@unsw.edu.au)*

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Abstract. The role of contextual and unplanned factors on career decision-making was explored. Six hundred and fifty one university students at all levels were surveyed to collect data on career intentions, current enrolments, perceptions of influence of family, friends, teachers and the media, the role of serendipitous events and the education and current work of their family members. Results indicated that students perceived family and teachers to be significant influences on their career decisions. Furthermore, distal influences such as the media and web-based information were also significant. Students' current course enrolments and career intentions were significantly more likely to be in interest categories congruent with their father's job. Unplanned and serendipitous events were very commonly perceived to influence career decisions. The results are interpreted as providing support for an open systems theory of career decision-making. Practical counselling and future research implications are discussed.

Résumé. Le rôle du contexte social et des événements accidentels dans la prise de décision vocationnelle. On explore le rôle des facteurs contextuels et inattendus dans la prise de décision vocationnelle. On a examiné 651 étudiants universitaires appartenant à tous les niveaux d'études pour rassembler des données sur les intentions professionnelles, les choix d'inscription actuels, les perceptions de l'influence de la famille, des amis, des professeurs et des médias, le rôle des événements accidentels ainsi que le niveau d'études et professionnel des membres de leur famille. Les résultats montrent que les étudiants perçoivent la famille et les professeurs comme des sources d'influence significatives de leurs décisions vocationnelles. En outre, les influences distales comme celles émanant des médias et de l'information recueillie sur la toile sont également significatives. Les inscriptions aux cours et les intentions vocationnelles actuelles tendent à tomber dans des catégories d'intérêt qui correspondent au travail du père. Les étudiants perçoivent divers événements non planifiés et accidentels comme influençant leurs décisions vocationnelles. Les résultats sont interprétés comme venant à l'appui d'une théorie de systèmes ouverts de prise de décision vocationnelle. Les implications de cette étude pour la consultation clinique et la recherche future sont examinées.

Zusammenfassung. Die Bedeutung des sozialen Umfelds und glücklicher Umstände bei Berufsentscheidungen. Die Bedeutung von Einflüssen aus dem Umfeld und von ungeplanten Faktoren auf Berufsentscheidungen wurde untersucht. 651 Universitätsstudenten aus allen Bereichen wurden befragt, um Daten über berufliche Pläne, derzeitige Immatrikulationen, Wahrnehmungen der Einflüsse von Familie, Freunden, Lehrern und der Medien, aber auch über die Bedeutung von glücklichen Umständen, dem Bildungsstand der der derzeitigen Berufstätigkeit ihrer Familienmitglieder zu erheben. Die Ergebnisse belegen, dass die Studenten in ihren Familien und Lehrern sehr wirksame Einflussfaktoren bei ihren Berufsentscheidungen wahrnehmen. Darüber hinaus waren auch Ferneinflüsse wie durch Medien oder internetbasierte Informationen bedeutsam. Die aktuellen Immatrikulationen und die Berufsziele der Studenten lagen mit signifikant erhöhter Wahrscheinlichkeit in Interessensgebieten, die mit der derzeitigen Arbeitsstelle des Vaters korrespondierten. Es wurde häufig wahrgenommen, dass ungeplante Einflussfaktoren und glückliche

Umstände die Berufsentscheidungen beeinflussten. Die Ergebnisse insgesamt werden interpretiert als ein weiterer Beleg zur Unterstützung von offenen System-Theorien zur Berufswahl. Praktische Auswirkungen für die Beratung und für zukünftige Forschungsprojekte werden diskutiert.

Resumen. El papel del contexto social y de los hechos imprevistos en la toma de decisiones profesionales. En este estudio se ha explorado el papel de los factores contextuales y no planificados en la toma de decisiones de la carrera. Se encuestó a seiscientos cincuenta y un estudiantes universitarios de todos los niveles para recoger información sobre sus intenciones profesionales; asignaturas en las que estaban matriculados; percepciones acerca de la influencia de su familia, amigos, profesores, y los medios de comunicación; el papel de los hechos imprevistos y el nivel educativo y trabajo desempeñado por los miembros de su familia. Los resultados indicaron que los estudiantes percibían como significativa la influencia de su familia y de sus profesores en las decisiones que tomaban en relación con su carrera, además de reconocer la importancia de otras influencias como los medios de comunicación y la información de Internet. Las asignaturas en las que estaban matriculados, y sus intenciones profesionales estaban mayormente relacionadas con las categorías de intereses congruentes con el trabajo de su padre. Asimismo, se percibía muy a menudo que los hechos no planificados e imprevistos influían en sus decisiones profesionales. Pueden interpretarse los resultados como un respaldo a la teoría sistémica sobre la toma de decisiones de la carrera. Se discuten finalmente sus implicaciones prácticas para la orientación y para futuras investigaciones.

Career decision-making encompasses a large group of influences that are related to making choices about education, training, jobs and careers and retirement. While contextual influences such as the family, peers, the labour market, and unplanned events are acknowledged, they have infrequently been the focus of sustained investigation in relation to career decision-making (Patton & McMahon, 1999). Career theorists have typically characterised the career decision process as a rational one (e.g. Dawis & Lofquist, 1984; Dawis, Lofquist & Lloyd, 1976; Dawis, Lofquist, & Weiss, 1968; Holland, 1959, 1992; Scott, Dawis, England, & Lofquist, 1960). Most theories acknowledge that vocational outcomes are determined by the transactions occurring between persons and their environments (P–E interaction) (Osipow, 1990). Such approaches do not adequately capture the dynamic nature of the P–E interaction, nor can they adequately handle chance or serendipitous events, although there have been some recent attempts to incorporate more dynamic elements into these theories (e.g. Rounds & Tracey, 1990).

Social learning and social cognitive approaches to career decision-making (e.g. Krumboltz, 1979; Krumboltz & Nichols, 1990; Lent, Brown, & Hackett, 1996) acknowledge the dynamic nature of the P–E interaction. Both approaches emphasise that learning experiences (both direct and vicarious) shape people's vocational interests, values and choices.

Vocational decision-making does not occur in a vacuum, and social cognitive variables such as self-efficacy do not operate independently of their social and physical context. However, the manner in which 'context' has been considered in the research is somewhat limited. For instance Lent, Brown, and Hackett (1994, 1996) have characterised the environment as: predispositions,

gender, race, disability, and status. In addition, they include Proximal Contextual influences and Background Contextual affordances. Contextual affordances (Ford, 1987) are similar to Astin's (1984) structure of opportunity. They include opportunities for skill development, cultural and gender-role socialisation processes, emotional and financial support for selecting a particular option, job availability in one's preferred field and sociocultural barriers. Other commentators such as Rounds and Hesketh (1994) list variables such as sex-type, prestige, Equal Employment Opportunity (EEO), climate, type of contract and type of career path as 'environmental' variables in their Interactional model of vocational behaviour.

Szymanski and Hershenson (1998) reviewed a wide range of career development theoretical approaches and then classified constructs into five types: individual; contextual; mediating; environment; and outcome. Patton and McMahon's (1997, 1999) systems theory framework draws attention not only to the individual as a system but also to the social context and broader environmental/societal context as larger systems in which the person develops and makes career decisions. Along with a range of other writers (Collins, 1990; Leong, 1996; Sears, 1982; Vondracek, Lerner, & Schulenberg, 1986), they point to the range and complexity of the influences of human career decision-making and development, and the need to consider a much broader range of variables across various disciplines.

In our view, the major contributions of such efforts so far have been to identify the need for research with perspectives broader than the individual and to provide insightful and comprehensive taxonomies of contextual variables (Lent et al., 1994; Patton & McMahon, 1999; Szymanski & Hershenson, 1998). In relation to career decision-making, however, it still appears that research into the kinds of contextual factors identified by these theorists compared to research into person variables (such as cognitive abilities or vocational interests), is rudimentary and underdeveloped.

Lent et al. (2002) examined perceived influences on 31 college students comprising undergraduates and graduates. They identified six categories that influence career choice. These were: interests; direct exposure to work-relevant activities; vicarious exposure to work-relevant activities; work conditions or reinforcers; thinking one is good at an activity; and leisure experiences. Other categories that were influential in positive or negative choices included family, friends and teachers. They concluded that choice barriers and supports include generic factors and others that differ as a function of an individual's circumstances and experiences.

Poole and her colleagues have collected longitudinal data on the career intentions and paths of students dating back to 1975 (e.g. Poole & Langan-Fox, 1992; Poole, Langan-Fox, Ciavarella, & Omodei, 1991; Poole, Langan-Fox, & Omodei, 1993). They found that contextual variables such

as socio-economic status (SES), parental education, educational resources, support structures and parents, significantly influenced career choices. The significance of such research from our perspective is that it provides some insights into the way contextual variables impact the career decision-making process.

The role of chance events in influencing career decision-making has only recently received some attention (Betsworth & Hanson, 1996; Bright, Pryor, & Harpham, in press; Krumboltz, 1998). While various theorists have acknowledged the importance of unplanned influences (Crites, 1969; Mitchell, Jones & Krumboltz, 1979; Super et al., 1957), little serious attention has been given to understanding the nature of the influence of such events on individuals' career decision-making and development. Betsworth and Hanson (1996) have found that with older adults chance events were perceived as influential for over half their sample (63% for men; 57% for women). They provided a tentative taxonomy of serendipitous events that requires further investigation and explanation.

The present study is an attempt to investigate further contextual influences of individuals' career decision-making. In contrast to the qualitative approach adopted by Lent et al. (2002), the authors were interested in quantitatively measuring the impact of environmental influences on career decision-making. An attempt was made to measure subjective influences on career behaviour in line much of the previous work in this area, but there was also an attempt to measure objective influences on career behaviour. Perceiving that something influenced one's career behaviour does not necessarily mean that it actually has influenced that behaviour. If, in addition, consistencies between the objective presence of that influence and the expressed behaviour of the person can be indicated, however, this would provide further converging evidence to support the conclusion that the influence has had some material impact upon the career behaviour. With respect to unplanned events, this study aims to measure how frequently unplanned events are seen to influence career decision-making across different categories of events. This will provide further insight into the prevalence and type of chance events that influence career decision-making.

This approach places emphasis on what might be termed the routine environmental influences that surround us. These can be divided into structural and personal environmental influence. Into the personal category are included parental and family influences, friends, teachers, trainers and bosses, colleagues, and chance encounters with key individuals. Structural context would include opportunities to engage in different activities or vocations, socio-economic factors (personal finances, state of the economy, job stereotypes), geographic factors, and educational opportunities.

More specifically, the extent to which chance or unplanned events influence career choice decisions is investigated. The aims of this research were: to explore the relationship between contextual factors and career decision-making; how

these relationships differ at different career stages and the extent to which unplanned events influence career decision-making.

It is hypothesized here that:

- There are distinct categories of environmental factors associated with career decision making that can be classified as: proximal social environment – parents, friends and advisors; distal social environment – e.g. the media, sporting personalities, politicians etc; and chance or unplanned events.
- For this sample, parental influence will still be apparent in both perceived influence and in correspondence between parental employment category and their children's course enrolments and employment intentions.
- These perceived parental influences on career decision making will decrease with each year of university enrolment is completed.

Method

Participants

In total, 651 students (undergraduate and postgraduate university students) were surveyed. There were 425 females, and 226 male respondents. The sample was distributed as following: 193 first year (70 males, 123 females); 207 second year (65 males, 142 females); 106 third year (35 males, 71 females); 73 fourth year (32 males, 41 females) and 72 postgraduates (24 males, 48 females). The participants were aged between 17 and 47 years ($M = 21.34$ years, $SD = 3.92$).

Instruments

Through university contacts, an Internet-based website developed under the aegis of the University of New South Wales (UNSW) (Bright, Pryor, Jensen, & Wilkenfeld, 2000) was publicised. The site contained a survey designed to assess contextual influences on career decision-making. The survey comprised some 47 questions covering: respondent demographics, details of family member education and vocations, career preferences described in accordance with the Australian Standard Classification of Occupations (ASCO) (1997), current training, and respondent perceptions of the influence of family, friends, teachers, lecturers, the media and unplanned events. The survey was divided into eight sections:

– about you. Including demographic factors – age, gender, student level (high school. first year undergraduate through to postgraduate), number of siblings, time spent living with parents, university course and career choice (defined in terms of ASCO), number of siblings;

– about your father. Occupation (in ASCO categories), Education, and Hobbies;
– about your mother. Occupation (in ASCO categories), Education, and Hobbies;
– about your eldest brother. Course and Career choice (in ASCO categories), and Hobbies;
– about your eldest sister. Course and Career choice (in ASCO categories), and Hobbies;
– about your best friend. Course and Career choice (in ASCO categories), and Hobbies;
– your favourite school teachers. Subject taught;
– Other Influences. Influences affecting University course choice – parents, friends, media, personalities. These were self-ratings of influence scored on a 3-point scale (*not at all, a little, a lot*). Unplanned events were assessed using the item: "Sometimes an unplanned or chance event can influence a person's thinking about a career. Did any of the following unplanned events have a significant influence on your career decision-making?". With two answer categories: *Yes* and *No*. Eight events were assessed: A personal or work relationship; Previous work or social experiences; Barriers to your previous career plan; An injury or health problem; Unintended exposure to a type of work or activity that you found interesting; Unintended exposure to a type of work or activity that you did not enjoy; A major change of residence over which you had little or no control; and Any other unplanned event.

The survey was developed from a pilot study using 105 high school students visiting the University for an Open day. This pilot survey was pencil and paper based. Two questions requested information about 'other' influences and in both cases no more than 11% of students indicated that this applied. The pilot survey appeared to cover most of the sources of environmental influences applying to the majority of students. The influence of University lecturers was added to the survey for the purposes of this study.

Procedure

The web-based survey was advertised to students via campus advertisements and also via the Careers and Employment website. University students identified themselves as bonafide UNSW students by entering their student number. There was no time limit on completing the survey and there was an opportunity for them to change or amend their responses before submitting. Students could complete the survey at any location using a web-enabled computer. The survey was on-line for a period of 3 months. The survey took approximately 30 min on average to complete. The data collected were stored

in data files and later downloaded into Microsoft Excel and SPSS statistical software for analysis.

Results

In relation to the first hypothesis that there are distinct categories of environmental factors associated with career decision-making, Figure 1 presents the raw score data for contextual influences on career decisions for the whole sample. It can be seen that father, mother, and university information are the most frequently indicated major influences on students' career decision-making. Mid-frequency results were obtained for best friend, other friend, favourite university lecturer, favourite teacher, print media, the Internet, careers advisor and other.

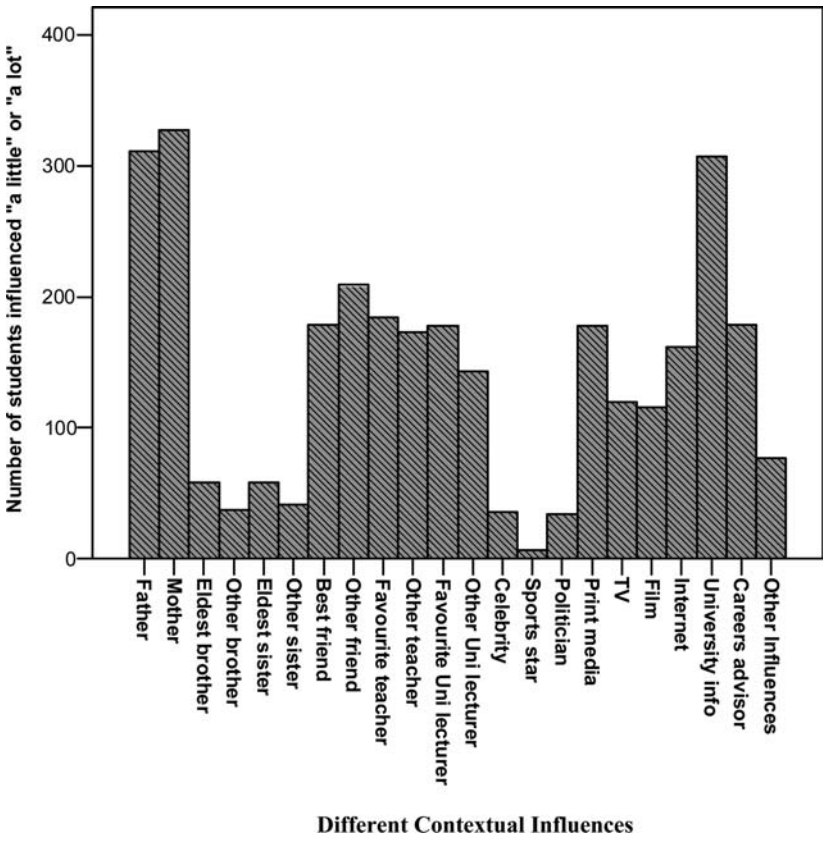

Figure 1. The range of contextual influences on career decisions.

Overall, these data highlight the perceived impact of the immediate social context on students' career decisions. The data also highlight the students' use of information sources as part of the decision-making process.

Principal Axis Factor extraction with varimax rotation was performed on 19 items from the self-rated career influences data. Variables were excluded from the analysis where over 75% of responses fell into the 'not applicable' category or demonstrated other significant skewing likely to undermine the analysis. The Kaiser–Meyer–Olkin Measure of Sampling Adequacy was .71. This value exceeded the .60 minimum and indicated that the data are factorable (Tabachnick & Fidell, 2001, p. 589). In addition, Bartlett's test of Sphericity was significant ($p < .05$), which further indicates the suitability of the data for the analysis. The adequacy of the orthogonal rotation (Varimax) was tested by requesting an oblique rotation (Oblimin) with the 4-factor solution. The factor correlation matrix contained no correlations above .30, which justifies the orthogonal transformation.

Four factors were extracted (see Table 1). A cut off of .40 on factor loadings was adopted for inclusion in each factor. This loading is described as between 'poor' and 'fair' by Comrey and Lee (1992). As indicated by the Squared Mean Correlations (SMCs, see Tabachnick & Fidell, 2001, p. 625), three of the four factors had high internal estimates scores ($> .70$). The fourth factor was less reliable on this measure, however, the mean inter-item correlation for this factor being .28. Briggs and Cheek (1986) recommend that for scales under 10 items the mean inter-item correlation coefficient should be the appropriate measure of reliability. They recommend an optimal range between .20 and .40. Thus, while the scale would benefit from additional items to improve its reliability, for the purposes of this study, however, it can be considered an acceptably reliable factor.

Following Tabachnick and Fidell (2001), six criteria were considered in deciding upon the 4-factor solution: the theoretical coherence of the solution; the number of factors expected from a typical dataset; the scree plot; the number of residuals from the residual correlation matrix that exceed .05; the reliability of the resultant factors and the achievement of simple structure. In the hypothesis, a three factor solution was expected based upon: (i) proximal social environment – parents, friends and advisors; (ii) distal social environment – the media, sporting personalities, politicians, etc.; and (iii) chance or unplanned events. The 4-factor solution, however, yields factors that can be labelled; Media; Teachers and Lecturers; Family and Friends; and Unplanned Events. This differs from the original prediction to the extent that Family and Friends are a separate factor from Teachers and Lecturers. These differences merely reflect greater specificity of the 4-factor solution and do not conflict significantly with the original formulation and theoretical predictions. Second, the number of optimum factors in an analysis using fewer than 40 variables can

TABLE 1
Principal axis factor matrix with varimax rotation of subjective influences on career decision-making

Influence	Rotated factor loadings				
	h2	1	2	3	4
Television	.62	.78	–	–	–
Film	.51	.69	–	–	–
Print media	.42	.64	–	–	–
Internet	.36	.56	–	–	–
University information	.19	–	–	–	–
Other uni lecturer	.62	–	.77	–	–
Favourite university lecturer	.61	–	.76	–	–
Other teacher	.35	–	.54	–	–
Favourite teacher	.33	–	.51	–	–
Mother	.52	–	–	.72	–
Father	.51	–	–	.71	–
Best friend	.27	–	–	.41	–
Other friend	.30	–	–	–	–
Career advisors	.16	–	–	–	–
Of a relationship	.35	–	–	–	.58
Of prior experiences	.35	–	–	–	.56
An unplanned bad job exp'ce	.25	–	–	–	.49
A prior unplanned good job exp'ce	.23	–	–	–	.46
By barriers to previous plan	.09	–	–	–	–
Eigen values		2.15	1.98	1.63	1.30
Sq'red Mean Correlation		.79	.79	.73	.64
% of Var explained		11.32	10.44	8.56	6.86
Cum Var explained		11.32	21.76	30.32	37.17

Note: Factor loading coefficients below ±.40 are reported as "–" in this table. The four-factors can be labeled: (1) Media; (2) Teachers and Lecturers; (3) Family and Friends; and (4) Unplanned events.

be estimated by dividing the number of variables by five for the lower limit and by three for the upper limit. This indicates that the optimum number of factors for this sample falls between 4 and 6 factors. The proposed solution falls within this range. Third, the factor structure chosen is confirmed when considering the scree plot. There is a marked drop off after the fourth factor. Fourth, the residual correlation matrix contained 24% of residuals greater than .05 for the 4-factor solution compared to a 35% (three factor), 17% (five factor) and 10% (six factor). In the 4-factor solution, only 4 (2%) of these correlations were above .10. Furthermore, the 5- and 6-factor solutions result in 2-variables factors, which make interpretation "hazardous" Tabachnick and Fidell (2001, p. 622). Finally, the factor structure is simple with each variable loading on only one factor. Overall, the 4-factor solution appears to capture the most variance while retaining theoretical coherence and factor reliability.

In relation to the third hypothesis, i.e. that perceived parental influences on career decision-making will decrease as each year of university enrolment is completed, gender and level (1st, 2nd, 3rd, 4th year undergraduate and postgraduate) differences on the four factors were analysed using a multivariate analysis of variance. Preliminary assumption testing was conducted to check for normality, linearity, univariate and multivariate outliers, homogeneity of variance-co-variance matrices, and multicollinearity, with no serious violations noted. There was a statistically significant difference in perceived influence as a function of educational stage on the combined factors $F(16, 1148) = 4.53$, $p < .01$ (Wilks' lambda was .78, $p < .01$, partial eta squared .06). There were no significant differences in perceived influences by gender $F(4, 284) = .55$, $p < .70$, (Wilks' lambda .99, $p < .70$, partial eta squared .008). There was a significant interaction between gender and educational stage for the combined factors (F (16, 1148) = 1.96, $p < .05$, Wilks' lambda .90, $p < .05$, partial eta squared .03). Levene's test for equality of error variances was significant only for one variable – the Media $F(9, 287) = 2.79$, $p < .01$. Tabachnick and Fidell (2001) recommend adopting a more stringent alpha level of .025 for such cases. When the results for the dependent variables were considered separately, the only differences to reach statistical significance using a Bonferoni corrected alpha level of .013 were the Media across educational stage ($F(4, 287) = 4.64$, $p < .013$), Family and Friends across educational level ($F(4, 287) = 9.95$, $p < .013$) and the interaction of Family and Friends across both gender and educational stage ($F(4, 287) = 5.3$, $p < .013$). Figures 2–4 illustrate the relationships between these variables. Inspection of these figures indicates that the

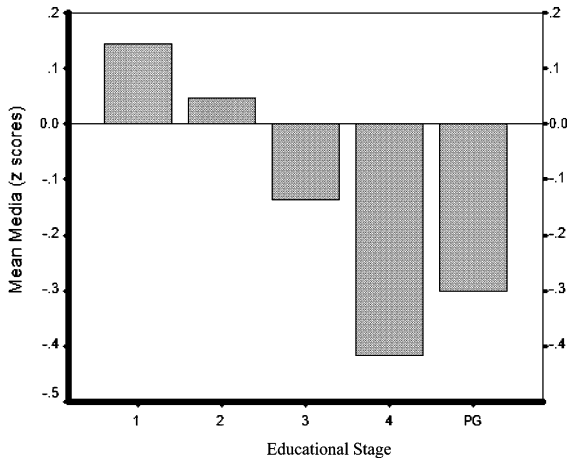

Figure 2. The relationship between educational stage and self-reported influence of media factors. (*Note:* 1, 2, 3, 4 = 1st, 2nd, 3rd, 4th year undergraduate; PG = Postgraduate.)

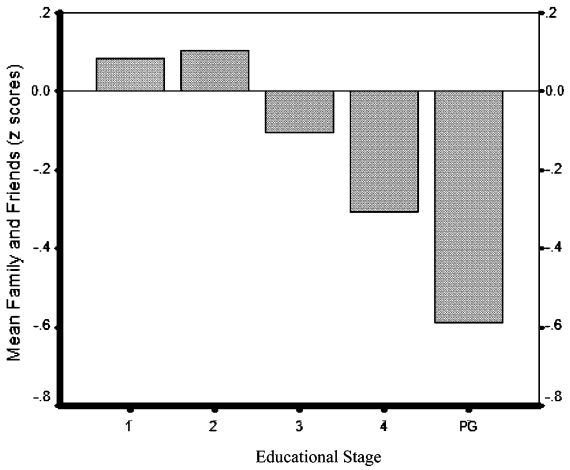

Figure 3. The relationship between educational stage and self-reported influence of family and friends factors. (*Note:* 1, 2, 3, 4 = 1st, 2nd, 3rd, 4th year undergraduate; PG = postgraduate.)

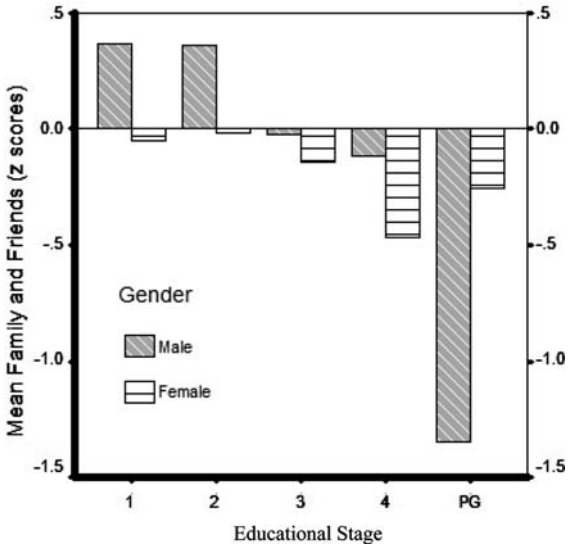

Figure 4. The relationship between educational stage, Gender and self-reported influence of family and friends factors. (*Note:* 1, 2, 3, 4 = 1st, 2nd, 3rd, 4th year undergraduate; PG = postgraduate.)

influence of the media decreases across educational stage. Similarly, influence of Family and Friends also decreases across educational stage. The interaction between educational stage, gender and influence of Family and Friends, can be explained by the greater decrease in self-perceived influence of Family and Friends for males in our sample compared to females.

The relationship predicted in hypothesis 2 between parents' occupations and their children's (the students) current enrolments and expressed career preferences was also investigated to provide the possibility of converging evidence to establish the contextual relevance of parents in student career decision-making. Expressed career preferences and parents' occupations were classified into Australian Standard Classification of Occupations (ASCO, 1997) categories and also into Holland codes. Based upon the Holland classification, fathers' occupations were significantly associated with their children's career choices (Kappa = .048, $p < .013$). The association between Fathers' and sons' career choices was also significant and stronger (Kappa = .121, $p < .01$). In other words, respondents in this study were more likely to choose a career in an occupational classification consistent with their father's than would be expected by chance. The Kappa statistic reported uses parental career classifications as a baseline for student choices, and so controls for assumptions about the distribution of career preferences across the occupational categories. Indeed this technique is likely to be conservative because 20% of fathers were classified into the Realistic occupational category. This category covers manual and mechanical activities that are not typically dependent upon tertiary training, and thus a correspondence between fathers and their children would not be expected for this category. Furthermore, these results do not seem to depend critically upon the classification scheme used. When the analysis was repeated using the ASCO (1997) classification scheme, Kappa was .049, $p < .01$ for the complete sample, and .074, $p < .025$ for fathers and sons.

The chance events data has been more extensively analysed and reported in Bright et al. (in press) as part of a larger sample of combined university students and high school students. However, for the purposes of the present study, the data relating only to university students is presented.

Table 2 summarises data on the perceived influence of chance events. The most obvious aspect of the data is the substantial nature of the frequency of perceived influence of chance events, especially for relationships and social or work experiences.

TABLE 2
Proportion of students reporting chance events as a significant influence on their career decision-making

Unplanned event type	% Yes	% No
Personal or work relationship	43	57
Previous work or social experiences	61	39
Injury or health problem	10	90
Positive work experience	44	56
Negative work experience	31	69
Change of residence	10	90
Other unplanned events	10	90

Discussion

This research sought to address the following questions: Do proximal contextual factors such as parents and distal factors such as the media influence career decision-making? Are such influences constant across similar students at different educational levels? Do chance events influence career decision-making?

The results provided support for the idea that both proximal and distal contextual factors were influential in career decision-making. The factor accounting for the most variance in self-reported influence on career choice was labelled the Media and consisted of items relating to Television, Film, Print Media and the Internet. It is not that surprising that print media and the Internet are seen as influential in shaping career choice amongst students, given the proliferation of university publications, prospectuses and increasingly sophisticated websites. Furthermore, graduate employers spend large sums on the production of a wide range of recruitment-related printed matter and web-based information. Film and Television may provide opportunities for vicarious experience and social learning as described by Lent et al. (1994, 2002) and Krumboltz (1979).

The results of this study indicate that the nature of media influence in career decision-making is worthy of closer attention using both quantitative and qualitative (interviews) methods. Future research should investigate whether the media is seen as similarly influential in shaping career choice for other groups in society (e.g. by life stage, and by educational level more broadly defined). In addition, the extent to which the media may influence negative stereotypes about work and workers is worthy of further exploration. In professional practice the effects of sensational media treatment of fraudulent worker's compensation claimants is frequently observed. It often has a devastating effect on genuinely seriously impaired clients who are enduring chronic pain, financial loss and vocational uncertainty. As a result of this coverage, they contend with abuse, accusation, social ostracism and internalised feelings of guilt and loss of self-esteem and self-confidence.

Teachers and lecturers were the second most important grouping of contextual categories in terms of variance accounted for. Dimensions of this factor would conceivably include subject area, quality of teaching, enthusiasm, time spent with the pupil, opportunities provided by the subject (e.g. site visits, work experience, university visits, visiting speakers and so on). This factor was perceived as a constant influence across educational stage and gender indicating the pervasive nature and importance attributed to these people in shaping career choices. Clearly this group of participants were in close contact with educators and would have been for many years. Consequently, it is not surprising that they should be prominent in their reckoning about careers.

Fisher and Stafford (1999) point out that the direct influence of friends and peers on career development is not well documented. The results of this study indicate that components of the immediate social context, especially parents, have a major perceived impact on students' career decision-making. This further develops the findings of Lent et al. (2002). Moreover, the perceived influence was validated by the data presented illustrating the behavioural relationship – students tended to choose occupations congruent with those of their parents. Parental influence (and those of friends) was observed to lessen over time, with students reporting less influence as a function of their educational stage. This could reflect a developing sense of independence and identity as they mature, or could correspond to changes in their attributions as a function of their current context. As would be expected, the number of students living at home decreased across educational stage at university from over 60% of the first years living at home, and falling to 39% of postgraduates. The influence of Family and Friends as measured by that factor decreased more markedly for male students compared to female students. However, this finding needs to be explored more rigorously through longitudinal studies that can measure appropriately any developmental trends.

There was no significant agreement between mothers' jobs and their childrens' choices. This is probably because most of the sample expressed interest in pursuing professional and associate professional vocations, whereas mothers were largely underrepresented in this group. This is a limitation in the present study that should be acknowledged, and this result should be treated with caution. It can be expected to see greater patterns of influence when this study is extended to broader population samples. The results are consistent with Poole and Langan-Fox (1992), though societal attitudes and roles may well have changed significantly since their data were collected. This once again reflects the complexity of career development research. The results of the present study provide support for the view that professional mothers exert a greater objective influence over their daughters. A greater proportion (18.9%) of children of professional mothers chose congruent careers compared to only 8.9% of children of non-professional mothers.

Support was also found for the influential role of chance or unplanned events. Unplanned events were consistently cited as an influence on career decision-making across Educational level and Gender. The frequency with which unplanned events were cited as influential was high enough for them to warrant much closer research attention. Such data demand a response from much current theorising in the career development field (e.g. Pryor & Bright, 2003a, b). The data challenge notions of knowledge, control and rationality in career decision-making as typically conceived across a wide range of current formulations. People appear to perceive career choice as being far less rational and planful and on occasion career choice may even be experienced as chaotic

(Pryor & Bright, 2003a, 2003b) or at least unforeseen. A limitation here is that the present study was limited to younger, city-dwelling students so that issues like unforeseen medical problems or residential changes were only infrequently influential. These categories may be more frequently experienced by older respondents and those living in rural areas. Finally, it is worth noting that the university students perceptions of chance events is similar to the reporting of chance events by high school students (cf. Bright et al., in press).

Conclusion

The research results suggest that more focus needs to be put by counsellors on strategies aimed at maximising their clients's positive chance experiences and minimising their negative chance experiences. For instance, actions such as volunteering, joining clubs and generally making contact with other people and groups are likely to increase a client's chances of an unplanned experience. Krumboltz and Levin (2004) provide a series of strategies to assist individuals in this endeavour.

These data may have two other counselling implications. In particular, the data suggest that increasing the number of experiences with different and divergent vocations will enhance an individual's ability to choose an agreeable career path. Second, the results to date imply that counsellors should try to reinstate the context in which a past career decision was made in order to understand the decision and the motives behind it. This is similar to conducting a forensic interview with an eyewitness (see Pryor & Bright, in press). If clients learn to appreciate how contextual factors in their lives have an influence on their career thinking, they are more likely to be able to act in order to capitalise on or counter such influences to make better career decisions.

The results of this study provide support for the argument that contextual factors are influential in career choice, which is consistent with approaches to career development that go beyond the static person – environment interactions such as social learning, systems and chaos theorists (e.g. Krumboltz, 1979; Patton & McMahon, 1999; Pryor & Bright, 2003b). Though this investigation was exploratory in nature, results show that there is reason to suggests that individualistic research and theorising has dominated the career development field for far too long (Pryor & Bright, 2003a, 2003b). At this point, it seems more appropriate to agree with the insights of writers such as Leong (1996):

> Our theories fail to take into account…emergent and self organising properties in complex adaptive systems. All to often our practice and the theories that guide them are based on simple models that are linear, univariate, single equilibrium and static … vocational psychologists and career coun-

sellors need to integrate the science of complexity into their theory and practise – not because it is the latest scientific fad or quick fix but because it more accurately reflects the nature of the phenomena with which they deal (p. 341).

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