LETTER OF DUTY AFFIRMATION
No: 3213/H.9.6/FP/VII/2015

To Whom It May Concern,
The undersigned, Dean of Faculty of Psychology, Soegijapranata Catholic University of Semarang, Indonesia, hereby assigns:

Name : Dr. Augustina Sulastri, S.Psi., Psi.
Occupation : Full time Faculty Member of Psychology Faculty

To joint World Psychology Forum (WPF) 2015 organized by the Union of Psychological Associations of the Czech Republic (UPA CR) in collaboration with the Czech-Moravian Psychological Society in Prague, Czech Republic, from 17th of September – 19 of September 2015.

This letter is issued for whatever it might deem useful to her.

Semarang, 7th July 2015
Dean
Dr. Margaretha Sih Setija Utami, M.Kes.
Gender-based Differences in Academic Performance and Job Finding

By: Augustina Sulastri
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Abstract
The differences between male and female graduates in psychology with regard to their academic performance and success in job finding were investigated. Two hundred and six psychology graduates from seven universities in Indonesia participated in a two-wave longitudinal study. In academic context, women outperformed men in grades obtained. We also found that motivation to learn partially mediated the relationship between gender and academic performance. In job finding context, first, we found no difference in the success of obtaining a general (multi-entry) job between male and female graduates. Secondly, we found a nearly significant gender difference ($p < .10$) with regard to success in finding a psychology-based job, with relatively more female graduates succeeding in obtaining a psychology-based job than male graduates. We also found that academic performance revealed a (nearly) perfect mediation for the relationship between gender and finding a psychology-based job. Practical implications regarding gender differences in academic performance and its subsequent impact on job finding are discussed.

Keywords: Gender differences; Motivation to learn; Academic performance; Job finding

Introduction

Each year, there are millions of university graduates engaging in their first job searches following the accomplishment of their study. Besides these young job seekers, there might be other millions of people who are seeking for a (new) job as a result of job loss or a desire to pursue a new career (Boswell, Zimmerman, & Swider, 2012). Rynes, Orlitzky, and Bretz (1997) demonstrated that a number of job positions that require a college degree were filled with experienced workers. This result suggests that experienced applicants are valued higher than new, less experienced ones. Furthermore, Steinpreis, Anders, and Ritzke’s (1999) study revealed evidence that job applicants’ reviewers and personnel selection members were more inclined to suggest higher starting salaries and tenure offerings to experienced candidates than to

1 Funding:
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new entrants (individuals who search for their first job following a period of education). These findings might reflect the impediment on getting a job among fresh graduates as new entrants in the labor market (Dayton, 1981; Turban, Stevens, & Lee, 2009). Consequently, some studies revealed evidence that finding a job is particularly problematic for recent college graduates and that this population is often at risk to be unemployed (e.g. Brown, Cober, Kane, Levy, & Shallhoop, 2006; Dayton, 1981; Tay, Ang, & Van Dyne, 2006).

It is also intriguing to note that in personnel selection, gender has been found as an indicator of success in getting a job (Steinpreis et al., 1999). Steinpreis et al. reported that male applicants were more likely to be hired than females. They also found that both male and female job applicants’ reviewers were more likely to offer tenures to males than to equally-qualified females. Other studies have shown that women perceived more career-related barriers than did men (Luzzo & McWhirter, 2001; McWhirter, 1997). Women were more likely to expect to have a harder time to get hired than men, to experience more negative comments, to experience discrimination, and to have difficulties to find a job that allows them to spend sufficient time with their families. It is also noted that recent male graduates earned more than their female counterparts (Joy, 2003). Several studies also amplified previous findings that women and ethnic minorities are groups who often encounter adverse situations in a selection process and/or hiring decision (e.g. Lopez & Ann-Yi, 2006; Mascaro, Arnette, Santana, & Kaslow, 2007; McKinney & Miles, 2009; Peppas, 2002; VanHooft, Born, Taris, & Van der Flier, 2006).

Studies examining factors contributing to university students’ academic performance (e.g. Chamorro-Premuzic & Furnham, 2003; Furnham, Chamorro-Premuzic, & McDougall, 2003; Harackiewicz, Barron, Tauer, & Elliot, 2002, Poropat, 2009), job searches (Kanfer, Wanberg, & Kantrowitz, 2001; Wanberg, Kanfer, & Rotundo, 1999), and successful job acquisition (e.g.}
Cole, Rubin, Feild, & Giles, 2007; Garcia, Triana, Peters, & Sanchez, 2009; Turban, Stevens, & Lee, 2009) have evolved somewhat separately. The current study offers important contributions unravelling relationships between academic outcome and the success in job finding in a sample of young job seekers who are often at risk to become unemployed, recent university graduates in psychology. Given the increase of female graduates entering the workforce (McKinney & Miles, 2009; Pema & Mehay, 2010) and, in specific scope, that women account for the majority of psychology graduates, it is important to investigate whether gender differences exist in academic performance and finding a job. Thus, the first purpose of the current study was to examine the difference between male and female graduating psychology students in their success in academic performance and job finding.

Evidence has also shown that individual differences in personality (Cheng & Ickes, 2009; Komarraju, Karau, & Schmeck, 2009; Noftle & Robbins, 2007; Wanberg, Hough, & Song, 2002) and growth mindset, also known as attribution style and/or positive self-concept (Blackwell, Trzesniewski, & Dweck, 2007; Leeson, Ciarrochi, & Heaven, 2008; Wanberg, Glomb, Song, & Sorenson, 2005) might contribute to students’ success in academic performance and getting a job (e.g. Garcia et al., 2009; Poropat, 2009; Turban et al., 2009). Consistent with these findings, the second purpose of this study was to determine whether individual differences in personality and growth mindset between male and female graduating students might account for their differences in academic performance and job acquisition.

**Gender-based Differences in Academic Performance**

Evidence provides a relatively stringent pattern of gender differences regarding male and female students’ differences in academic outcomes. Furnham et al. (2003) found that academic performance was significantly related to gender; females obtained higher grades than
males. Using a three-year longitudinal study, Leeson et al. (2008) found significant gender differences in grades, with girls consistently outperforming boys. In another study, we also found that the mean score of GPAs among female graduates was higher than that of male graduates (Sulastri, Handoko, & Janssens (a), submitted), indicating that female graduates outperform males in grades obtained. It is thus clear that there is a relatively consistent pattern regarding gender-based differences in academic performance; females outperform males in grades obtained.

Studies have shown consistent significant prediction of motivation (Cheng & Ickes, 2009; Harackiewicz et al., 2002; Komarraju et al., 2009) to college students’ academic performance. Consistent with prior findings, we also found significant relations between motivation to learn and final GPAs among university graduating students (Sulastri, Handoko, & Janssens (b), submitted). However, it remains unclear which factors account for gender differences in academic achievement. In this study, first, we examined whether motivation to learn may contribute to gender-based differences in academic performance. Second, we also sought out whether individual differences in personality may account for such differences. A meta-analysis suggested that individual differences in personality may explain individual variance in academic performance (Poropat, 2009). Personality traits are viewed as basic tendencies that refer to the abstract underlying potentials of individuals (McCrae & Costa, 1996). In another study we found that women were more conscientious than men (Sulastri et al. (b), submitted). Costa, Terraciano, and McCrae’s (2001) meta-analysis also provided evidence that women scored higher on conscientiousness than did men. Conscientiousness reflects a hardworking, ambitious, and confident character. Conscientious individuals tend to be more disciplined and achievement oriented, and therefore, they should have a higher motivation and better academic performance.
than people with a lower level of conscientiousness (e.g. Cheng & Ickes, 2009; Komarraju et al., 2009; Noftle & Robbins, 2007). We accordingly expected that women obtained better academic performance than did men because women had a higher level of motivation to learn and conscientiousness than did men.

**Gender-based Differences in Job Finding**

*Gender-based differences in a multi-entry job acquisition*

Kashima, Yamaguchi, Kim, Choi, Gelfand, and Yuki (1995) argued that a distinction of tasks within a society may potentially create gender differences in people’s attempts to obtain a formal job. In traditional view, men’s primary task is to obtain the means of sustenance or to act as breadwinners (Sverko, Galic, Sersic, & Galesic, 2008a), whereas women’s is to raise the children. Presumably, it was due to this traditional role as breadwinners that men were found to be more persistent in job-seeking processes than women (e.g. Sverko et al., 2008a, 2008b). Studies have shown that men appeared to have more advantages than did women in job finding context (e.g. Joy, 2003; Luzzo & McWhirter, 2001; McWhirther, 1997; Steinpreis et al., 1999). In line with these findings, Kanfer et al. (2001) found that among new entrants in the labor market, males were found being more persistent in job searches than females. Thus, it appeared that unlike in academic setting where women were found to be more successful in academic achievement than men, men were more likely to be more successful than women in job acquisition. Hence, we expected that gender-based differences in job finding exist in a sample of recent graduated students searching for their first formal employment; men are more likely to succeed than women in getting a multi-entry job, a job that is not necessarily in line with one’s major in education.
Besides investigating whether gender differences exist in job finding outcomes, we also attempted to unravel whether individual differences in personality and growth mindset may contribute to such differences. Regarding individual differences in personality, in another study we found significant gender differences in Openness to experience, with men being more open than women (Sulastri et al. (b), submitted). Openness to experience reflects broad-mindedness, imaginativeness, and a resourceful character. Since the nature of job finding endeavor is dynamic and highly autonomous (Kanfer et al., 2001), it is likely that individuals who engage more in active imagination, intellectual curiosity, and broad-mindedness would be more successful in the pursuit of a job. They may capitalize on their active imagination to struggle within uncertain situations during the job-search and may take advantage of their broad-mindedness to generate goal-directed activities to obtain a job. We accordingly speculated that the higher level of Openness to experience among male graduates might account for the higher likelihood of success in job search acquisition.

With regard to individual differences in mindset, we found gender differences in growth mindset, specifically in the belief in the malleability of intelligence (BMI), with male graduates having more belief in this malleability than women (Sulastri et al. (c), submitted). Belief in the malleability of intelligence implies that intelligence is pliable to be changed and enhanced through intervention and other developmental activities (Dweck, 2006; 2008). Holding a malleability-belief makes individuals more inclined to perceive that personal attributes, such as ability, intelligence, and personality, are the product of continues effort and learning (Blackwell et al., 2007; Heslin & VandeWalle, 2008). This belief might further imply the importance of perseverance and hard work (Furnham et al., 2003). Wanberg et al.’s (2005) study demonstrated that motivational variables such as positive thinking about one’s competence were significantly
related to persistence in job search processes. Therefore, we expected that more belief in the malleability of intelligence among male graduates may contribute to gender differences in job finding in that males were more likely to succeed in finding a job than women. This is because by having more belief in the malleability of intelligence men would be more persevered and persistent in job search processes than women.

*Gender-based differences in psychology-based job acquisition*

Apart from an attempt to search for their first employment following a period of education, graduates of psychology, particularly at bachelor degree level, are open to pursue a career which is in line with their discipline (e.g. therapist, human resource staff), or may choose a career which is not closely related to their discipline (e.g. bank teller, administration staff). Since the majority of our sample consisted of female psychology students at bachelor degree level, we also examined whether gender-based differences exist in job acquisition, particularly in obtaining a job that is consistent with the major of these graduates. In one of our studies (Sulastri et al. (a), submitted), we found that GPA emerged as the most stringent predictor of getting a psychology-based job. Thus, we suggested that one possible factor accounting for gender-based differences in obtaining a psychology-based job was students’ GPA. We accordingly expected that women would be more successful in getting a psychology-based job than men because women obtained higher scores on GPA than did men.

**Method**

*Sample and Procedure*

Participants in this study were graduated students with bachelor’s degrees from seven psychology faculties in the cities of Semarang, Kudus, and Salatiga in Central Java, Indonesia. The graduated students were contacted directly after their graduation in February, April, June,
August, October, and December 2010 to get their consent to participate in this study. There were 250 students (197 women and 53 men) who agreed to participate at Time 1. The participants were rewarded fifty thousand rupiah (equals to five US dollars) after completing the questionnaires at Time 1.

Six months after their graduation, the 250 participants were again contacted to participate at Time 2. There were 240 (96% of 250 graduates at Time 1) who participated at Time 2. At Time 2, 189 (79%) were women. Since one of the objectives of this study was to assess factors contributing to the success in finding a job among recent graduates, data of 34 participants who were continuing their study at a post-graduate level were excluded. Data of 206 participants (86% of the participants who participated at both Time 1 and Time 2 of this study) were analyzed for the present study. Of the 206, 164 (80%) were women. The participants’ age ranged from 21 to 35 years old ($M = 23.70, SD = 1.78$).

**Measures**

*Motivation to Learn.* Motivation to learn was assessed by a 10-item scale adapted from the Stages of Learning Motivation (SOLMI) developed by Cole, Feild, & Harris (2004). The scale was used to measure students’ engagement in learning activities particularly in the preparation and maintenance phase. The participants rated their agreement on a 5-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (5). A sample item is, “I have been working hard to learn the information covered in the course/class.” The motivation to learn measure was carefully adapted and translated into Indonesian language using the forward-back translation (ABBA) technique. The forward-back translation was conducted by three independent translators in the forward-translation phase and by three other independent
translators in the back-translation phase. For each student, a sum score was computed over the 10 items. Cronbach’s alpha reliability was .76.

*Academic Performance.* Students’ final grade point average (GPA) was used as a measure of their academic performance. Students’ GPA was obtained from the universities’ records. The legal consent from each of the seven universities’ authorities was obtained prior to the procurement of the data. The GPA ranged from 2.06 to 3.90 ($M = 3.07, SD = .33$).

*The Big Five Personality Traits.* The participants were asked to complete The Big Five Inventory (John & Srivastava, 1999) that consists of 44 items of short and easy-to-understand phrases (Srivastava, John, Gosling, & Potter, 2003). The participants rated their agreement on a 5-point Likert scale, ranging from “*strongly disagree*” (1) to “*strongly agree*” (5). Sample items are, “*I see myself as someone who is curious about many different things* (Openness to experience); *does a thorough job* (Conscientiousness); *is talkative* (Extraversion); *is helpful and unselfish with others* (Agreeableness); *is depressed, blue* (Neuroticism).” The Big Five Inventory (BFI) was carefully translated and adapted into Indonesian language using the forward-back translation technique as used for the motivation to learn measure. The Extraversion subscale consists of 8 items, Agreeableness 9 items, Conscientiousness 9 items, Neuroticism 8 items, and Openness to experience 10 items. We computed sum scores over the items for each subscale. Cronbach’s alpha reliabilities were .66 for Openness to experience, .73 for Conscientiousness, .75 for Extraversion, .65 for Agreeableness, and .80 for Neuroticism. Since we found in a previous study (Sulastri et al. (b), submitted) that Conscientiousness and Openness to experience revealed significant correlations with students’ academic performance and success in job finding, respectively, we included only these two traits in the statistical analysis.
Belief in the Malleability of Intelligence (BMI). The participants were asked to complete the BMI measure consisting of four items (Dweck, 2006). The participants rated their agreement on a 5-point Likert scale, ranging from “strongly disagree” (1) to “strongly agree” (5). A sample item is, “You can always substantially change how intelligent you are.” The BMI measure was carefully translated and adapted into Indonesian language using the forward-back translation technique as used for motivation to learn and BFI measures. For each student, a sum score was computed over the four items of this scale. Cronbach’s alpha reliability was .59.

Results

Of the 206 graduates, 166 (81%) succeeded in obtaining a job. Among these 166, 84 (51%) obtained a psychology-based job.

Gender-based differences in academic performance

The descriptive statistics for the variables studied with respect to students’ academic performance are reported in Table 1.

Table 1
Means and Standard Deviations of Motivation to Learn, Conscientiousness, and Academic Performance

<table>
<thead>
<tr>
<th></th>
<th>Women</th>
<th></th>
<th>Men</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>M</td>
<td>SD</td>
<td>M</td>
<td>SD</td>
</tr>
<tr>
<td>Motivation to Learn</td>
<td>39.09</td>
<td>3.45</td>
<td>37.36</td>
<td>5.48</td>
</tr>
<tr>
<td>Conscientiousness</td>
<td>33.36</td>
<td>4.07</td>
<td>31.86</td>
<td>4.66</td>
</tr>
<tr>
<td>Academic Performance</td>
<td>3.12</td>
<td>.32</td>
<td>2.86</td>
<td>.31</td>
</tr>
</tbody>
</table>

Note.
N= 206

To examine whether differences in motivation to learn, conscientiousness, and academic performance existed between male and female graduating students, t-test analyses were
performed. First, we found a significant difference with regard to students’ motivation to learn ($t(204)= -2.53, p< .05, 95\% CI [-3.07, -.38]$); women had a higher motivation to learn than men. The effect size of the difference was medium ($d = .39$; Cohen, 1988). Second, a significant difference in conscientiousness was found ($t(204)= -2.07, p< .05, 95\% CI [-2.93, -.071]$), with women being more conscientious than men. The effect size was medium ($d = .34$). Third, there was a significant difference in academic performance ($t(204)= 3.12, p< .01, 95\% CI [-.37, -.15]$), with women outperforming men in grades obtained. The effect size was medium ($d = .53$).

To test whether motivation to learn and conscientiousness mediated the relationship between gender and academic performance, regression analyses were performed. First, the regression analyses showed that motivation to learn was a significant partial mediator of the relationship between gender and academic performance (Baron & Kenny, 1986). The relationship between gender and academic performance in terms of beta was significantly reduced from .32 to .28 when motivation to learn was included in the regression analysis, Sobel’s test = 1.89, $p < .05$. Second, conscientiousness did not significantly mediate the relationship between gender and academic performance. The regression of gender on academic performance was only reduced from .32 to .31 when conscientiousness was included in the regression analysis, Sobel’s test = 1.04, $p > .05$.

**Gender-based differences in job finding**

<table>
<thead>
<tr>
<th>Employment Status</th>
<th>Multi-entry Job</th>
<th>Psychology-based Job</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Women (N= 164)</td>
<td>Men (N= 42)</td>
</tr>
<tr>
<td>Get a Job</td>
<td>131 (80%)</td>
<td>35 (83%)</td>
</tr>
<tr>
<td>No Job</td>
<td>33 (20%)</td>
<td>7 (17%)</td>
</tr>
</tbody>
</table>
The numbers and percentages of male and female graduates who obtained a multi-entry and a psychology-based job are reported in Table 2. To determine whether gender-based differences existed in the success of finding a multi-entry and/or a psychology-based job among the graduated psychology students, chi-square tests were performed. First, we found no significant gender difference ($\chi^2 = .26, p = .40 (p > .05)$) in multi-entry job acquisition. Because there was no significant gender difference in multi-entry job acquisition, we did not perform regression analyses to examine whether openness to experience and belief in the malleability of intelligence mediated the relationship between gender and the success in multi-entry job acquisition as proposed. Second, we found that the difference between female and male graduates in the success of getting a psychology-based job was nearly significant ($\chi^2 = 3.20, p = .054$); relatively more women than men succeeded in obtaining a psychology-based job (see Table 2). We also found a significant gender difference in academic performance between male and female graduates who successfully obtained a psychology-based job ($t(164) = -4.52, p < .001$, 95% CI [-.38, -.15]); the academic performance of female graduates who obtained a psychology-based job was higher ($M = 3.12, SD = .31$) than the performance of male graduates ($M = 2.86, SD = .30$). The effect size was medium ($d = -.44$). To examine whether academic performance mediated the relationship between gender and the success in psychology-based job acquisition, a regression analysis was performed. This regression analysis indicated that academic performance was a significant and nearly a perfect mediator of the relationship between gender and psychology-based job acquisition. The relationship between gender and psychology-based job acquisition in terms of beta was significantly reduced from -.14 to -.001 when academic performance was included in the regression analysis, Sobel’s test $= -3.49, p < .001$. 
Discussion

The extent to which gender may determine academic performance and employment acquisition success has been the focus of several studies. Prior studies have demonstrated that discrimination in ethnicity, gender, and age continues to occur and thus may limit educational attainment and employment acquisition for individuals in particular groups (e.g. Joy, 2003; Luzzo & McWhirter, 2001; McKinney & Miles, 2009; Pema & Mehay, 2010; Peppas, 2002; Sverko et al., 2008a; Van Hooft et al., 2009). The primary purpose of this study was to examine whether gender-based differences exist in academic performance between male and female graduated psychology students and whether these differences may subsequently affect their employment acquisition success. Another purpose of the current study was to investigate whether motivation to learn, individual differences in personality and belief in the malleability of intelligence may account for the relationships between gender and graduated students’ outcomes in academic performance and job acquisition.

Results of the current study support previous findings that gender differences exist in academic performance (Furnham et al., 2003; Leeson et al., 2008), with women consistently outperform men in grades obtained. Results of this study are in line with other studies that found that motivation to learn mediates the relationship between gender and students’ academic performance (e.g. Busato, Prins, Elshout, & Hamaker, 1999; Cheng & Ickes, 2009; Ziegler, Knogler, & Buhner, 2009). We found that motivation to learn emerged as a partial significant mediator of the relationship between gender and graduates’ academic performance. This finding implies that a higher level of motivation to learn, defined as a desire to accomplish, compete, and persist in learning (Komarraj & Karau, 2005; Komarraju et al., 2009), explains the relatively higher grades females graduates obtained compared with grades obtained by males. Although
conscientiousness was significantly related to graduating students’ academic performance and women were found to be relatively more conscientious than men, conscientiousness did not significantly contribute in explaining the mechanisms why gender-based differences existed in academic performance. It is interesting to note, however, that Cheng and Ickes’ (2009) study demonstrated that conscientiousness and motivation may potentially compensate each other in predicting university students’ academic performance. This latter finding suggests that students who were either high in motivation or conscientiousness would obtain better academic performance than those who were low in both traits and that the presence of one trait may substitute the absence of the other trait.

Regarding job acquisition success in multi-entry and psychology-based jobs, results of our study provide some interesting findings. First, we found no difference in the success in obtaining a multi-entry job between male and female graduates. This finding indicates that men and women had relatively equal chances to succeed in obtaining jobs that disregard the match between the nature of the jobs and applicants’ educational background (multi-entry jobs). As women’s educational attainment and labor force participation has increased substantially in recent years (McKinney & Miles, 2009; Pema & Mehay, 2010), it appears that college recruiters and/or employers might have applied the same criteria when assigning work, particularly in the entry-level jobs, to women and men.

Second, it is perhaps the most intriguing finding of the current study that a significant gender difference was found in psychology-based job acquisition, with relatively more female graduates succeeding in obtaining a psychology-based job than male graduates. Furthermore, the mediation analysis’ results are also thought-provoking. Specifically, we found that academic performance emerged as (nearly) a perfect mediator for the relationship between gender and
psychology-based job acquisition. This suggests that female graduates due to their better academic performance are more successful in obtaining a psychology-based job than males. Our finding resonates previous studies (Cole et al., 2007; Roth & Bobko, 2000) suggesting that recruiters and/or employers were more inclined to use college grade point average as reported in recent graduates’ job application resumes as the basis of their pre-employment and/or hiring decisions. This finding also corroborates McKinney and Miles’ (2009) study underlining that women are more likely to have positive impact when academic performance is used in selection decisions, while men tended to have the adverse impact.

While the current study provides some interesting findings regarding gender-based differences in academic performance and its potential impact on job acquisition success among recent college graduates, there are some study limitations. The first limitation in this study is the unequal numbers of male and female participants. There were more female than male participants involved in this study. This factor limits the generalizability of the findings of the current study. Additional research is needed to determine whether results found in this study might be replicated to different graduates from other disciplines. Second, the data of the employment status in the current study was drawn only at one point in time. It has been suggested that the accuracy of the prediction of job acquisition success would likely be increased by repeated data gathering over time in a time-series design (see Wanberg et al., 2005). Third, there is a broader set of variables that might influence individual’s job acquisition success, such as labor market demand, employers’ situation, and job seeker’s human and social capital (Wanberg, 2012; Wanberg et al., 2002). Future research is needed to scrutinize those predictors that may help to better understand the variables relevant particularly to college graduates’ success in academic and job search settings. Despite its limitations, our study clearly identified
some potential predictors influencing university students’ academic achievement, job acquisition success, and the mechanisms by which these two outcomes may differ between female and male graduates. Counselors in higher educational settings may focus on some potential traits, such as motivation to learn, conscientiousness, openness to experience, and belief in the malleability of intelligence investigated in the current study, that influence college students’ performance and their success in job acquisition.
References


of Interest and Performance From Freshman Year Through Graduation. *Journal of Educational Psychology, 94*, 562 – 575.


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