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## Psychological Birth Order and Achievement Goal Orientation of High School Students engaged in Shadow Education

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## Cover Page Footnote

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## Psychological Birth Order and Achievement Goal Orientation of High School Students engaged in Shadow Education

Urutan Kelahiran Psikologis dan Orientasi Pencapaian Tujuan Siswa Sekolah Menengah yang Terlibat dalam Pendidikan Bayangan

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### 1. Introduction

In this paper, the connection between perceived birth order (psychological birth order) and goals (achievement goal orientation) of high school students engaged in shadow education is examined. Specifically, we investigated whether their perceived role, as influenced by their environment and personal circumstances, shapes their achievement motivation. This line of inquiry is important in a country that puts a premium on education because of instances where high

### ABSTRACT

The focus of the current study is to examine the nature of the relationship of goal orientation with psychological birth order. Likewise, it also looked into the ability of psychological birth order to influence the endorsement of achievement goals (mastery-approach and avoidance; performance-approach and avoidance). A total of 220 high school students engaged in shadow education answered the White-Campbell Psychological Birth Order Inventory (PBOI) and the Achievement Goal Questionnaire (AGQ). Based on the regression analysis performed, only the pairing of psychological birth order and performance-approach is significant while those of psychological birth order, mastery-approach, mastery-avoidance, and performance-avoidance are not significant. Further analysis revealed that those who are psychologically firstborns tend to endorse the mastery-approach goal orientation while those who are psychologically youngest or lastborn endorse mastery-avoidance.

### ABSTRAK

Fokus dari penelitian ini adalah untuk menguji sifat hubungan orientasi tujuan dengan urutan kelahiran psikologis. Penelitian ini juga melihat kemampuan urutan kelahiran psikologis dalam mempengaruhi dukungan pencapaian tujuan (pendekatan-penguasaan dan penghindaran; pendekatan-kinerja dan penghindaran). Sebanyak 220 siswa sekolah menengah yang terlibat dalam pendidikan bayangan menjawab *White-Campbell Psychological Birth Order Inventory* (PBOI) dan *Achievement Goal Questionnaire* (AGQ). Berdasarkan analisis regresi yang dilakukan, hanya pasangan urutan kelahiran psikologis dan pendekatan kinerja yang signifikan sedangkan pasangan urutan psikologis, pendekatan-penguasaan, penguasaan-penghindaran, dan kinerja-penghindaran tidak signifikan. Analisis lebih lanjut mengungkapkan bahwa mereka yang secara psikologis anak sulung cenderung mendukung orientasi tujuan pendekatan-penguasaan sementara mereka yang secara psikologis paling muda atau yang terakhir lahir mendukung penguasaan-penghindaran.

school students are thrust into a role incongruent with their ordinal birth order forcing them to adapt different goal preferences as they play and live up to the expectations and demands of their perceived new role or psychological birth order.

Psychological birth order pertains to a position or vantage point from which high school students evaluate themselves and others and from which their convictions regarding what is required of them arise, considering the hereditary endowment and environmental opportunities

of the situation (Griffith & Powers, 2007). This concept is believed to be more essential than ordinal birth order (Healy et al., 2009), since it is the situation into which one is born into and the way one interprets it that influences his character, behavior, and personality formation and not the number in order of successive births (Adler, 1956; Sulloway, 1999).

This phenomenon can be explained by the role theory, which states that a role stems from people holding a social position and holds expectations for their own behavior and those of others (Biddle, 1986). The role theory states that expectations are the major generators of roles (Biddle, 1986) and if the perceived psychological position is partially formed by expectations placed on that individual, it stands to reason that it may be beneficial for individuals to align their behavior with a particular psychological birth order position (Healy et al., 2009). This means that the behavior and choices of high school students are influenced by the role and expectations (psychological birth order) placed upon them by their immediate environment. Hence, a high school student who is not firstborn (based on biological ordinal position) may exhibit the traits and characteristics of a firstborn (psychological birth order) because of the expectations and demands placed on him by his immediate environment thereby adapting the behaviors and choices of a real firstborn (based on biological ordinal position).

Literature has documented characteristics of individuals on the basis of their order. Controlled studies (Eckstein et al., 2010; Paulhus et al., 1999; Sulloway, 1999), all using within-family designs, generally reported that firstborns and only children are higher in conscientiousness, emotional stability, and extraversion and are lower in agreeableness and openness when compared with laterborns. Firstborns often seek the favor of their parents by acting as surrogate parents toward their younger siblings. Consequently, firstborns tend to be more parent-identified, conscientious, and respectful to authority. Other firstborns may be ambitious and tend to conform to parental authority, only because these attributes are valued by parents (Sulloway, 1999). Additionally, Michalski and Shackelford (2002), also using a within-family design, found no relationship for conscientiousness, emotional stability, and extraversion and a positive relationship between firstborns and agreeableness. Bleske-Rechek and Kelley (2013), also using within- and between-family designs, found no relationship between birth order and personality. Within-family designs use comparisons of siblings from within the same family, whereas between-family designs compare individuals from different families (Paulhus et al., 1999).

One of the several characteristics that can be adapted on the basis of one's psychological birth order is

achievement goals orientation, a type of motivational construct that can be learned and adapted and grows over time based on one's experiences. Also known as goal orientation theory, achievement goals have emerged as a dominant theoretical framework for studying motivation and competence in academic achievement. It is a construct that reflects internal motivational processes, which then affect an individual's task choice, self-set goals, and effort mechanisms in learning and performance contexts (McKinney, 2003). A person's achievement goal is said to represent his or her own purpose for engaging in a particular behavior that is more often seen in an achievement situation (Phan, 2008).

Initially, achievement goal theorists used a mastery-performance goal dichotomy in accounting for competence-based strivings. Mastery-oriented people are driven to increase competence, understanding, and appreciation for what is being learned (Covington, 2000). Conversely, people who are motivated to outperform others to uplift one's ability status (Covington, 2000) or perform on the basis of a normative-based standard (Zweig & Webster, 2004) are performance-oriented. This dichotomous model has been extended to a trichotomous model that kept the mastery goal orientation intact but divided performance goal orientation into two: (a) performance-approach goal orientation, which involves a desire to showcase one's abilities by being the best (Anderman et al., 2003), and performance-avoidance goal orientation, which is grounded in fear of failure and is concerned with not appearing inept or less able than others (Anderman et al., 2003; Cury et al., 2002; Elliot & Harackiewicz, 1996).

However, over the years, mastery goal orientation has been divided into the approach and avoidance types that resulted in a new framework (Finney et al., 2004). Mastery-approach focuses on active behaviors such as acquiring new skills and improving one's competence, whereas mastery-avoidance focuses on negative situations such as losing skills or becoming incompetent. For example, students persevering to understand lessons may exhibit mastery-approach goal orientation while perfectionists, trying their best to avoid mistakes, may have a mastery-avoidance goal orientation.

Educators in recent years have emphasized the importance of the goal framework as its effect on performance has been well documented. Nevertheless, its influence has already transcended from outcome variables, such as grades, into the affective factors of a learner as several studies have shown that achievement goals are associated with a student's psychological well-being. Kaplan and Maehr (1999) stated that generally, mastery goal orientation has been linked to positive

studying behaviors such as diligence, deep processing of information, intrinsic motivation, and positive psychological well-being, whereas performance goal orientation has been associated with the negative psychological well-being of an individual. Additionally, Finney et al. (2004) linked performance–approach goal orientation to perseverance and higher grades but only having shallow processing of information, whereas performance–avoidance goal orientation may result in distractions, rote processing of information, and weakened intrinsic motivation.

A standard literature search was performed to support our theorizing that when high school students adapt a psychological birth order, the adapted psychological birth order tends to influence their choice of achievement goals. Unfortunately, we found out that no literature exists directly relating the two constructs resulting in a gap in knowledge that we hope to fill. However, literature exists relating known characteristics of individuals on the basis of particular birth order and achievement goals. Literature shows that conscientiousness, extraversion, and emotional stability are characteristics of people who are mastery-oriented (Zweig & Webster, 2004). These individuals are motivated to achieve, succeed, and persevere on difficult tasks. Also, VandeWalle (as cited in Zweig & Webster, 2004) found that a mastery goal orientation had positive relationships with optimism and the desire to work hard, a characteristic of conscientiousness. Similarly, Beaubien and Payne (as cited in Zweig & Webster, 2004) found that mastery goal orientation correlated positively with conscientiousness. Studies were also conducted to relate a person's orientation toward a particular goal orientation, mastery or performance, with birth order, and classroom environment, intrinsic motivation, and other constructs (Carette et al., 2011; Cury et al., 2002; Kaplan & Maehr, 1999; Phan, 2008).

Given all these, the present study aims to fill in the gap of knowledge that has been identified by providing literature that directly examines the relationship of psychological birth order and the choice of achievement goals among high school students or learners engaged in shadow education. At the same time, the results can provide valuable insights on how education stakeholders, counselors, and those in similar professions can use perceived roles to develop achievement goals among high school students or learners. We believe this proposed theorizing is possible since it is universally accepted that one's personality has a large influence on one's choices and preferences. The study was conducted on a special target group, which are high school students engaged in shadow education because of the following reasons: (1) the current paper is part of a series of studies documenting the characteristics of high school students engaged in

shadow education; (2) in the Philippines, the majority of those engaged in shadow education are high school students; and (3) it has already been established in the literature that oftentimes, the choice to engage in shadow education lies on the families, particularly the parents, and not on the learners, thus making it highly probable that these high school students are thrust into roles incongruent with their birth ordinal position.

Shadow education, private tutoring, or simply tutoring has grown popular in recent years particularly in situations or places that emphasize achievement gains. Shadow education is an out-of-school system that supplements normal schooling aimed at academic achievement that can be customized to meet an individual's specific needs (Ireson & Rushforth, 2005; Mori & Baker, 2010; Park et al., 2011). Originally conceptualized for remedial purposes but because of emphasis on achievement and competition, one has seen the increase of incidences where tutoring has been used for enhancement and maintenance purposes. As such, even students who are doing well in school are now engaged in shadow education to ensure that they will continuously perform well.

Literature shows that private tutoring has not only had a great impact on the academic performance of learners, but its effect has transcended from achievement outcomes to affective and cognitive factors of students. A study conducted by Cayubit et al. (2014) found that tutoring affects academic achievement (mostly associated with performance-oriented learners), self-improvement, and learning attitude (mostly associated with mastery-oriented learners) of high school students toward their studies and learning. The study conducted by Bray (as cited in Seth, 2006) also emphasized that private tutoring discourages deep information processing and creativity (characteristics of performance-oriented learners). Also, shadow education may encourage students to prioritize getting high grades over knowledge acquisition (Ramos et al., 2012), which is a characteristic of performance goal orientation. Lastly, studies (Baker & LeTandre, as cited in Silova, 2009; Bray & Lykins, 2012) have shown that shadow education has become less focused on remedial help for students but have focused more on educational competition.

In line with the above, this brief research tested the hypothesis of whether psychological birth order influences the adaption of a specific goal orientation for high school students engaged in shadow education.

## 2. Methods

### Participants

A total of 220 opportunity samples of high school students from different tutorial centers participated in

this research; 115 (52.27%) were females, whereas 105 (47.72%) were males. Their ages ranged from 12 to 18 years old. The tutorial centers and the participants were conveniently selected on the basis of their willingness to participate.

### Design

Using the new classification of nonexperimental quantitative research (Johnson, 2001), this brief research report made use of the predictive cross-sectional design to test its hypothesis.

### Measures

**The PBOI or the White–Campbell Psychological Birth Order Inventory** is an instrument designed to measure one's psychological birth order and is often used to aid studies of psychological position in birth order research. It is a way to assess the degree to which a person's perception of his or her family of origin role was consistent with the prototypical sibling and family roles described by Adler (Campbell et al., 1991). It has 40 items with a dichotomous response format where 1 point is awarded for every "yes" response. Raw scores are then converted to T scores using a standard formula developed by Stewart and Campbell (1988). The scale is reported to have good reliability that ranged from 0.70 to 0.94. For the present study, reliability indices are as follows: female scales were  $\alpha = 0.63$  for the firstborn,  $\alpha = 0.84$  for the middle-born,  $\alpha = 0.51$  for the youngest, and for  $\alpha = 0.72$  for the only, whereas male scales have  $\alpha = 0.61$  for the firstborn,  $\alpha = 0.77$  for the middle-born,  $\alpha = 0.55$  for the youngest, and for  $\alpha = 0.63$  for the only.

**Achievement Goal Questionnaire.** A scale designed to measure the goal orientation of a person. The test has four subscales: mastery–approach, mastery–avoidance, performance–approach, and performance–avoidance. Mastery–approach goal orientation focuses on active behaviors such as acquiring new skills and improving one's competence, whereas mastery–avoidance focuses on negative situations such as losing skills or becoming incompetent. Conversely, performance–approach goal orientation involves a desire to showcase one's abilities by being the best, and performance–avoidance goal orientation is grounded in fear of failure and is concerned with not appearing inept or less able than others. Items are scored based on the responses they have encircled on the Likert-type response scale where negative items are reversed scored. During its development, internal consistency was reported from .60 to .80. For the present study, internal consistencies are  $\alpha = 0.757$  for mastery–approach,  $\alpha = 0.744$  for mastery–avoidance,  $\alpha = 0.876$  for performance–approach, and  $\alpha = 0.675$  for performance–avoidance.

### Procedures

The study was conducted in 16 tutorial centers in Metro Manila, Batangas, Cavite, and Bulacan, Philippines.

Following the ethical guidelines on psychological research, informed consent was secured at the start of the data gathering and all participants were oriented and briefed on the purpose of the study, possible outcomes, and what the researchers intend to do with the data. Test administration was done either individually or in group on the basis of the schedule provided by the tutorial centers and on average; it took the participants between 30 and 40 min to answer all the research instruments. All measures were then collated, scored, interpreted, and readied for data analysis.

### Data Analysis

Descriptive statistics, zero-order correlation, and regression analysis were performed, and all hypotheses were tested with 0.05 as the level of significance.

## 3. Results

### Descriptive Statistics

To determine the psychological birth order and achievement goal orientation of the participants, descriptive statistics were obtained. Results show that majority scored low on mastery–approach ( $M = 15.60$ ,  $SD = 3.18$ ) and mastery–avoidance ( $M = 12.77$ ,  $SD = 3.94$ ) and average on performance–approach ( $M = 14.08$ ,  $SD = 3.33$ ) and performance–avoidance ( $M = 15.04$ ,  $SD = 3.88$ ). For psychological birth order, the average psychological birth order of the female participants is PBOI "firstborn,"  $M = 52.08$ ,  $SD = 7.99$ , whereas the average psychological birth order of the male participants is PBOI "middle-born,"  $M = 53.91$ ,  $SD = 12.06$ .

### Zero-order Correlation of the Research Variables

Two types of analysis were performed: (1) examining the relationship of the variables as a whole and (2) categorizing participants according to their psychological birth order and correlating their scores with achievement goal orientation. This procedure is based on the method of analysis performed by Healy et al. (2009), where the #2 method served as supplementary analysis for #1.

Based on the zero-order correlation performed, a significant relationship was found in the pairing of psychological birth order and performance–approach orientation ( $r = 0.163$ ,  $p < 0.05$ ) but no significant relationships between the following: psychological birth order and mastery–approach orientation ( $r = 0.051$ ,  $p > 0.05$ ), mastery–avoidance ( $r = 0.184$ ,  $p > 0.05$ ), and performance–avoidance ( $r = 0.086$ ,  $p > 0.05$ ).

Based on the second method of analysis, a significant relationship was found on the following pairing: between the PBOI "firstborns" and the mastery–approach orientation is significant ( $r = 0.274$ ,  $p < 0.05$ ) and between the PBOI "youngest" and the mastery–

avoidance orientation ( $r = 0.362, p < 0.05$ ). However, the relationship of the other pairings are not significant: between PBOI “firstborns” and mastery–avoidance orientation ( $r = 0.133, p > 0.05$ ), performance–approach ( $r = 0.202, p > 0.05$ ), and performance–avoidance ( $r = 0.045, p > 0.05$ ); between PBOI “middle-borns” and mastery–approach orientation ( $r = 0.063, p > 0.05$ ), mastery–avoidance ( $r = 0.202, p > 0.05$ ), performance–approach ( $r = 0.201, p > 0.05$ ), and performance–avoidance ( $r = 0.162, p > 0.05$ ); between PBOI “youngest” and mastery–approach orientation ( $r = 0.005, p > 0.05$ ), performance–approach ( $r = 0.149, p > 0.05$ ), and performance–avoidance ( $r = 0.268, p > 0.05$ ); and between PBOI “only” and mastery–approach orientation ( $r = -0.056, p > 0.05$ ), mastery–avoidance ( $r = 0.200, p > 0.05$ ), performance–approach ( $r = 0.083, p > 0.05$ ), and performance–avoidance ( $r = 0.039, p > 0.05$ ).

### Regression Analysis

Regression was performed only for pairings that were significantly correlated on the basis of zero-order correlation. Results show that regression of psychological birth order on performance–approach orientation is significant ( $F(1, 218) = 5.93, p < 0.05, R^2 = 0.026, R^2_{Adjusted} = 0.022$ ). Similar result was observed when mastery–approach orientation was regressed on the PBOI “firstborns” ( $F(1, 75) = 6.11, p < 0.05, R^2 = 0.075, R^2_{Adjusted} = 0.063$ ) and when mastery–avoidance orientation was regressed on the PBOI “youngest” ( $F(1, 32) = 4.84, p < 0.05, R^2 = 0.131, R^2_{Adjusted} = 0.104$ ).

## 4. Discussion

The present investigation dealt with the finding of whether the psychological birth order of high school students engaged in shadow education is a factor in their choice or endorsement of a specific achievement goal. Psychological birth order pertains to the subjective interpretation of their position in the family regardless of whether it is in accordance with their ordinal position or not, whereas achievement goals are motivational factors that largely determine the reason high school students engage in academic tasks.

Results show that psychological birth order is a factor in students being performance–approach learners. To a certain extent, this confirms part of the hypothesis formulated by the researchers; the respondents possess different psychological birth orders, a concept that is based on roles and expectations. These roles and expectations are verbalized by one’s parent and would most likely be centered in academics since they are still students and the Filipino culture’s emphasis on education. Such expectations are centered on the theme of excelling in class, graduating high school, and having private tutors to increase the chance of success. This makes them more prone to endorsing the performance–

approach orientation. This is an example of how a students’ microsystem can influence their beliefs and actions.

The notion that one must be good in school all the time to gain others’ approval, regardless of capabilities, can lead to students (and sometimes even parents if the approval required is outside of the immediate family) to seek additional help, and the most common would be tutoring. Looking at the descriptive results, the respondents scored higher in the performance subscale than in the mastery subscale. This underscores the belief that when one has tutors, it is performance that matters. According to Bray and Lykins (2012), tutoring indirectly influences students to lean toward rote learning and competition. Conversely, Ramos et al. (2012) stressed that students engaged in shadow education may be encouraged to prioritize getting high grades over knowledge acquisition, all of which are characteristics of performance goal orientation.

Nevertheless, if you analyze the psychological birth order independent of each other, a different story emerges. Personality characteristics of specific birth orders appear to influence their choices of goals. In the second regression, the scores of the psychological firstborns predict the mastery–approach orientation. Conventional psychology dictates that those who are firstborns are the ones who are expected to succeed, to lead, and to be responsible. They center all their efforts to ensure that they will be able to meet what is expected. Even in school, they tend to be more mastery–approach oriented; they welcome tasks that would challenge them, since they know that these tasks will help and develop skills that they could use in the long run. They are intrinsically motivated in their desire to be competent and successful. Carette et al. (2011) observed similar results as their research revealed that firstborns are more inclined to be mastery-oriented.

The last significant finding of the study is the relationship between the psychological youngest and mastery–avoidance approach. There appears to be little to no literature support for this result as the concept of mastery–avoidance is relatively new when compared with the more established goal framework. According to Madjar et al. (2011), although the construct of mastery–avoidance goals was introduced into the achievement goal framework a decade ago, its relevance, prevalence in academic settings, and association with adaptive and maladaptive outcomes remain unclear. Mastery–avoidance pertains to the drive of a student to strive to avoid doing worse than one has done before (Van Yperen et al., 2009). Looking at the characteristics of the psychological youngest of being fun-loving, uncomplicated, manipulative, outgoing, attention-seeker, and self-centered, one could argue that the reason for endorsing mastery–avoidance is out of fear of

being out of the limelight and would no longer be the center of attention as he or she has not improved from previous instances.

## 5. Conclusion

In summary, the present study provided insights on the orientation (birth order and goals) of high school students engaged in shadow education. The results add to the growing number of studies that attempt to paint a clear picture of the type and nature of students that avail of tutoring. Similarly, it provided valuable insights into how roles and expectations of the immediate environment and microsystem of high school students can influence their goals and aspirations. The result could also serve as a basis for programs or interventions that will help high school students adjust and adapt to the roles and expectations placed upon them. Finally, future researches could look into matching the ordinal birth order with the psychological birth order and investigate the reasons for incongruence, if there is any. The present study is not without limitation (sampling technique) and future researchers may opt to address this by using a more stringent sampling process for their respondents.

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