

THE EFFECT OF PARENTING DIMENSIONS ON COLLEGE ADJUSTMENT AND ACADEMIC PERFORMANCE: THE MEDIATING ROLE OF BASIC PSYCHOLOGICAL NEEDS SATISFACTION, SELF-ESTEEM AND ACADEMIC ENGAGEMENT AMONG UNIVERSITY STUDENTS FROM INTERNATIONAL PROGRAMS IN BANGKOK, THAILAND

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Abstract: The primary objective of this study was to investigate the effect of parenting dimensions (warmth, rejection, structure, chaos, autonomy support, & coercion) on university students' college adjustment and academic performance, being mediated by basic psychological need satisfaction, self-esteem and academic engagement. The participants of the study were 1224 university students (700 females and 524 males), aged between 18 and 25 years, who had attended international degree programs in Bangkok, Thailand. Data for the research were collected using a questionnaire survey that consisted of the following standardized scales, namely Parent as Social Context Questionnaire-Revised (PASCQ-R), Basic Psychological Needs Scale (BPNS), Rosenberg Self-Esteem Scale (RSES), the University Student Engagement (USEI), and College Adjustment Test (CAT). The proposed structural relations model was tested applying Structural Equation Modeling. The reliability and validity of the measures were established by Cronbach's Alpha and Confirmatory Factor Analysis respectively. The results supported the proposed model's fit in the data. Specifically, the positive parenting dimensions were found to be positively related to college adjustment and academic performance, being mediated by basic psychological needs satisfaction, self-esteem, and academic engagement. In addition, negative parenting dimensions were found to be negatively related to college adjustment and academic performance being mediated by basic psychological needs satisfaction, self-esteem, and academic engagement. The study's limitations, implications, and avenues for further research are also discussed.

Keywords: Parenting Dimensions, Basic Psychological Needs Satisfaction, Self-Esteem, Academic Engagement, College Adjustment, and Academic Performance.

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Introduction

Achievement of higher education is an important milestone in a person's life as it is recognized as one of the most significant events in the life university students. Due to lack of adjustment especially in the first year, one-third of college students drop out without a degree, which bears more attention (Bradburn & Carroll, 2002). Nowadays, college adjustment has become increasingly significant factor in achieving higher education and being successful in career and life. It is about how well a student is adapting to the demands of the college experience (Duncan, 2015). It is multifaceted that involves various demands and a variety of coping skills or reactions by the student, such as social and personal-emotional adaptation that a student experiences after transition to college. College adjustment is also a complicated process as it involves in both physical and emotional dimensions (Atakere, 2014). It consists of all attempts that a student makes to cope with the standards, needs, values, course work, and lifestyles over the university life (Enochs & Roland, 2006; Atakere, 2014). Success in college adjustment can be seen from their involvement in academic activities, psychological wellbeing (Julia & Veni, 2012), and it will affect academic performance as well (Abdullah & Elias, 2009; Julia & Veni, 2012). Academic performance refers to how successful the student has been in their academic courses. It can also be called academic success or academic achievement, which is mostly measured by their Grade Point Average (GPA) (Schwanz, Palm, Hill-Chapman & Broughton, 2014). Academic performance is also known as the critical part of college achievement and fulfillment (Robbins, Oh, Le, & Button, 2009; Trapmann, Hell, Hirn, & Schuler, 2007). Therefore, successful adjustment has been linked with positive academic outcomes and improved college retention and success (Tinto, 2006).

Parenting dimensions as predictors of college adjustment and academic performance

There are many factors that predict college adjustment (CA) & academic performance (AP). Parenting and related concepts such as parenting dimensions are important predictors of college adjustment and academic performance. Skinner, Johnson & Snyder (2005) identified six-core parenting dimensions, which are important in facilitating or preventing child outcomes (through historical review on parenting). The aforementioned dimensions include positive (warmth, structure, & autonomy support) and negative (rejection, chaos, & coercion) dimensions of parenting. Warmth refers to the

expression of affection, love, appreciation, kindness, and regard; it includes emotional availability, support, and genuine caring. While rejection shows the active dislike, aversion, and hostility. Structure is the extent to which parents provide clear and consistent guidelines, expectations, and rules for child behavior. In contrast, chaos is characterized by the lack of supervision, unclear or inconsistent expectations. Autonomy support allows freedom of expression and action. It also encourages the child to attend to, accept, and value genuine preferences and opinions. Opposite to which, there is coercion that is externally dictating outcomes, and motivating through disciplinary techniques, pressure, or controlling rewards (Skinner et al., 2005; Farkas, & Grolnick, 2010).

Parents as a primary socialization unit are considered to be one of the crucial factors throughout adolescence and adulthood (Ozcinar, 2006). There are several studies that have shown the significant effects of parenting styles on the college adjustment (Mason, 2005; Pettus, 2006), as well as parental contributions (Ingala, Softas-Nall, & Peters, 2013; Katigbak, 2013). So, the students with higher levels of perceived parental support expressed a better adjustment and are happier with their college experience (Jackson, 2008). Indeed, in terms of college adjustment the authoritative parenting resulted in a better academic adjustment than the authoritarian parenting (Mason, 2005; Kuczynski, 2003). So, students from authoritative parents consistently earned higher grades and expressed higher overall ability at facing challenges than those with perceived authoritarian parents (Katigbak, 2013; Shaw & Fairhurst, 2008). There are limited studies related to parenting dimensions and college adjustment. Therefore, the present study aims to investigate this relationship as well.

Moreover, several studies have supported the critical role of parenting on children's academic performance (Castro, Expósito-Casas, López-Martín, Lizasoain, Navarro-Asencio, & Gaviria, 2015; Phillipson & McFarland, 2016). For example, the authoritative parents, who are characterized by warmth, supportiveness, responsibility, positively affected the children's academic outcomes (Nyarko, 2011; Brown & Holloway, 2008; Cox, 2006; Linwood 2006). Research has also confirmed a relation between parenting and adolescent's sense of school belonging (Law et al. 2012) and academic outcomes (Gonzalez et al. 2002). Vasquez, Patall, Fong, Corrigan, and Pine (2016) also found the effect of parents' autonomy support on higher level of academic achievement, while family conflicts had negative impacts on academic performance (Crede, Wirthwein, McElvany, & Steinmayr, 2015).

Basic psychological need satisfaction (BPNS) as first level mediator

The Self System Model of Motivational Development (SSMMD; Skinner, Skinner, Johnson & Snyder, 2005) explains the crucial role of parenting as a social context on their children's outcomes. This theory was developed by Skinner et al. (2005) from the work of Connell and Wellborn (1991) and the Self-Determination Theory (SDT; Deci & Ryan, 1985) and is actually one of the most prominent models of parenting. According to SDT, humans have three basic psychological needs—competence, autonomy and relatedness. Relatedness refers to feelings of belongingness; competence refers to the belief in one's ability to successfully complete a task; and autonomy refers to the level of personal volition relative to a given activity (Moller, Deci, & Ryan, 2006). Moreover, specific dimensions of the parenting (as a social context) promote the fulfillment of corresponding basic psychological needs (Skinner et al. 2008). In particular, parental warmth is critical to children's experiences of belonging/ relatedness, in which parental provision of structure is the basis for competence, and parental autonomy support that is necessary for children to express their autonomy. In contrast, the model stipulates that parental rejection undermines a child's sense of relatedness, that chaotic parenting interferes with a child's sense of efficacy, and that parental coercion prevents children from developing psychological autonomy. So, parents as a social context play an influential role that either enhances or prevents the satisfaction of these innate psychological needs. When they interact with their children in ways that allow them to experience themselves as related, competent, and autonomous, children engage more constructively with parents and are more willing to be seriously socialized. Research has shown that adolescents' relationships with parents remain important social and emotional resources in various aspects of their lives (Laursen & Collins, 2009; Smetana, Campione-Barr, & Metzger, 2006). The key notion is that interacting with parents who support their children's fundamental psychological needs acts as energy provider and socialization facilitator. In contrast, children that interact with their parents who are hostile, chaotic, and coercive become disaffected from parent – child interactions, and can be sullen, submissive, oppositional, and less sociable (Chew & Wang, 2013).

BPNS provides theoretical foundations to explain students' success and academic adjustment (Raiziene, Gabrialaviciute, & Garckija, 2017). According to SSMMD, social environments (such as parents) that allow fulfillment of the basic needs are predicted to support the healthy interaction and will encourage optimum development and positive psychological outcomes (Smith, 2015), whereas factors associated with dissatisfied needs are predicted to be opposed, and may lead to maladaptive coping strategies and adjustment outcomes (Segrin, Woszidlo, Givertz, & Montgomery, 2013).

Studies have also supported that the fulfillment of these needs during academic setting was consistently connected with a positive learning practice and high level of involvement and motivation (Raiziene et al., 2017; Levesque, Zuehlke, Stanek, & Ryan, 2004). Moreover, students who supported autonomously reported higher competence, positive emotion, and higher level of adjustment and retention (Segrin et al., 2013). In contrast, students who reported a lower level of social support had a higher level of stress (Misra, Crist, & Burant, 2003) and higher level of intense loneliness (through social separation), unsuccessful in college transition and adjustment that lead to dropout (Sawir, Marginson, Deumert, Nyland, & Ramia, 2008).

In addition, satisfaction of BPNS promote psychological well-being and empower students to achieve higher academic performance; otherwise, students fail to succeed (Yurtseven, Alci, Karatas, 2014; Jurisevic & Pizorn, 2013; Hoa, 2013; Betoret & Artiga, 2011; Anthoney, 2011; Niemiec & Ryan, 2009; Engin, 2009). In addition, autonomy and competence can be used as predictors of academic performance (Yurtseven et al., 2014).

Previous research supported that parents as a social context promote children's development by supporting fundamental human needs for relatedness, competence, and autonomy (Connell & Wellborn, 1991; Deci & Ryan, 2000). Indeed, specific dimensions of the parenting effect the fulfillment of corresponding basic psychological needs (Skinner et al. 2008).

Based on the aforementioned, basic psychological needs as a mediator provide theoretical foundations to explain students' success and academic adjustment (Raiziene et al., 2017). Furthermore, parents as a primary socialization unit plays a crucial role that either enhances or prevents the satisfaction of these innate psychological needs (Ozcinar, 2006; Chew & Wang, 2013). Satisfaction of the basic needs are predicted to support optimum development and positive psychological outcomes (Smith, 2015), whereas factors associated with dissatisfied needs are predicted to be opposed, and may lead to maladaptive coping strategies and adjustment outcomes (Segrin et al., 2013). Moreover, satisfaction of BPNS promotes psychological well-being and empowers students to achieve higher academic performance; otherwise, students fail to be successful in their achievements (Yurtseven et al., 2014; Jurisevic & Pizorn, 2013; Hoa, 2013; Betoret & Artiga, 2011; Anthoney, 2011; Niemiec & Ryan, 2009; Engin, 2009; Asan, Nair, & Iyyapan, 2008; Kato, Asumoto, & Aacken, 2007). So, in first level mediation of this study, it is hypothesized that the positive parenting dimensions will be positively related to basic psychological need satisfaction (warmth to relatedness, structure to competence, & autonomy support to autonomy) while the negative parenting dimensions will be negatively related to basic psychological needs

(rejection to relatedness, chaos to competence, & coercion to autonomy). The higher the basic psychological needs are satisfied; the higher will be the college adjustment and academic performance. University students who enjoy warmth, structure and autonomy support reports high level of relatedness, competence, and autonomy, respectively and then have a high level of college adjustment and academic performance.

Self-esteem and academic engagement as second level mediators

One of the important variables in forming and improving of self-esteem is the satisfaction of basic psychological needs (BPNS), as it has been a need since the birth of the individual (Ummet, 2015). According to BPNS' findings, autonomy is to explore strong-minded behaviors and show self-approval (Ntoumanis, 2009). Competence is the ability of making vital regulations for fulfilling the perception of self-approval for accomplishing goals (Ummet, 2015). Relatedness is also identified as a form of confidence to others' support and guidance (Ntoumanis, 2009). Furthermore, past research supported that students who had higher level of needs fulfillment reported higher level of self-esteem (Orsini, Binnie, and Tricio, 2018; Ummet, 2015). Specifically, higher level of autonomy is linked to more positive, while lower levels of autonomy are connected to more negative feelings of oneself (Rusnak, 2018).

Understanding the role of basic psychological need satisfaction is a critical procedure for understanding engagement. Park et al. (2012) also suggested that students actively engage in the learning environments when their BPNS are successfully met. Specifically, highly competent and autonomous students reported high level of cognitive engagement experienced during learning process. It is emphasized that autonomy is an impression of cognitive engagement (Ruzek, Hafen, Allen, Gregory, Mikami, & Pianta, 2016). Moreover, related fulfillment and students' engagements were positively connected to academic performance (Mih et al., 2015; Ruzek et al., 2016).

The self-esteem and psychological adjustment are positively related (Brown and Holloway, 2008). As in a study of undergraduate students showed self-esteem has a higher effect on social and psychological adjustment (Bektas et al., 2009). That is, not only does having a higher self-esteem connect to higher adjustment, but also a lower self-esteem has been related with negative adjustment practices (Rundles, 2012). Furthermore, positive self-esteem is the critical predictor to a better social and psychological adjustment in college (Duncan, 2015). Boulter (2002) and Hickman et al. (2001) also showed the positive relationship between self-esteem and college adjustment as well as self-esteem and parental support. Al-Qaisy (2010) also stated that the experience of adjustment leads to promote self-esteem.

The high self-esteem is a significant factor related to social and academic achievement (Laryea, Saani, & Dawson-brew, 2014; Mock, 2014). It seems that high level of self-esteem motivates students to have a better feeling of them. So, a general assumption is that high self-esteem is connected to high academic performance, while low self-esteem is related positively to low academic performance (Arshad, 2015; Laryea et al., 2014; Bell, 2009). Self-esteem is also considered as one of the factor that can predict academic performance and can lead students to have a positive attitude, self- approval and high potential to cope with difficult situations (Mock, 2014).

In addition to the aforementioned findings, one of the important variables in forming and improving of self-esteem is the satisfaction BPNs since childhood (Ummet, 2015). The research also showed that emerging adults who had higher level of needs fulfillment reported higher self-esteem (Orsini et al., 2018; Ummet, 2015; Mabekoje& Okubango, 2009), and subsequently self-esteem has the higher effect on social and psychological adjustment in college students (Duncan, 2015; Bektas et al., 2009), as well as the higher academic performance (Sevinç & Gizir, 2014; Laryea et al., 2014; Mock, 2014), and in contrast, low self-esteem resulted in low academic performance (Arshad, 2015; Laryea et al., 2014; Bell, 2009). Self-esteem is also considered as one of the predictors of both academic adjustment and performance (Duncan, 2015; Mock, 2014). Moreover, the research supported BPNS effect on students' engagement (Park et al., 2012; Ruzek, Hafen, Allen, Gregory, Mikami, & Pianta, 2016; Jowett, Hill, Hall, & Curran, 2016; Shuck, Zigarmi, & Owen, 2015; Haivas, Hofmans, & Papermans, 2013), and subsequently academic engagement is a critical indicator of university students' college adjustment (Sinval et al., 2018; Wang & Holcombe, 2010), as well as their academic performance (Burkholder, 2014; Stebleton, Soria, Huesman, & Torres, 2014; Sagayadevan& Jeyaraj,2012; Kuh, Kinzie, Schuh, Whitt, & Associates, 2010; Wang & Holcombe, 2010). So, in second level mediation of this study, it is hypothesized that the positive parenting dimensions will be positively related to BPNS while the negative parenting dimensions will be negatively related to BPNS (as mentioned earlier). The higher the BPNS (as first level mediations) are satisfied, the higher will be the level of self-esteem and academic engagement (as a second level mediations) resulted in the higher level of college adjustment and academic performance. University students who enjoy warmth, structure and autonomy support reports high levels of relatedness, competence, and autonomy, respectively and subsequently high levels of self-esteem, academic engagement, college adjustment and academic performance.

Rationale of the study

Achievement of higher education is an important milestone in a person's life as it is recognized as one of the most significant events in the lives of university students. The changes that are brought about by pursuing university education are aligned with independence, freedom, and responsibilities (Datu, 2012). Nowadays, employment primarily demands higher education, and as a result, the number of university students is steeply increasing every year. Since college education is often associated with greater career opportunities and higher income, college adjustment as the first step of adulthood transition, becomes highly influential yet stressful (Tinto, 2006; Kong, Zhao & You, 2013). College adjustment is essentially a dynamic process (Datu, 2012) and an influential factor in one's success rate in academia and ability to confront problems of academic, social and emotional nature (Al Khatib & Awamleh, 2012). So, successful adjustment has been linked with positive academic outcomes and improved college retention (Tinto, 2006). But failure to foster such adjustment directly puts the student in mental and physical distress (Tao et al., 2000). In general, a smooth and successful adjustment causes greater satisfaction and retention in college and evident self-acceptance (NSSE, 2012).

It has been widely accepted that close relationships with parents remain important during lifespan (Johnson, 2004) and the parent-adolescent relationship is one of the crucial factors in transition to college (Pryor et al., 2012). It is identified that parenting of certain styles as a key variable in determining student's potential for a successful adjustment (Agliata & Renk 2008; Dennis et al., 2005; Kim & Sherraden, 2011; Mattanah et al., 2004; Shaw & Fairhurst, 2008; Yazedjian et al., 2009; Sciarra & Ambrosino, 2011; Katigbak, 2014; Ingala, Softas-Nall, & Peters, 2013). For instance, Jackson's study (2008) showed that students who received more attention and care from their parents were better at coping with challenges and reported greater happiness with university experience. Along with college adjustment, those who went through a warm and trusting childhood reported higher self-esteem, and they were more curious, self-reliant and resistant as college students (Cox, 2006; Linwood 2006). Students with parents using authoritative type renders greater college adjustment to the newfound environment as well as higher overall well-being in comparison to those who were raised under permissive or authoritarian styles (Hichman, Bartholoma, & McKenry, 2000; Slicker & Thornberry, 2002).

The current research is also different because of its examination of all six parenting dimensions, which have been developed out from parenting styles, in relation to factors that may result into university students' success. The

comparison of these populations in terms of parenting dimensions and the criterion variables also adds value to the importance of the study to bring light to issues related to students' adjustment and performance in academic life.

The purpose of the present study is to test the proposed mediation model that involves parenting dimensions as predictors, college adjustment and academic performance as criterion variables and basic psychological need satisfaction, self-esteem and academic engagement as mediators among university students from international programs in Bangkok, Thailand.

Method

Participants

The university students from international programs in Bangkok, Thailand were the participants of the current study. A sample of 1,224 students (male: $n=524$, 42.8%; female: $n=700$, 57.2 %) participated. Their ages ranged from 18 to 25 years, with a mean age of 20.7 years. In terms of the educational level of the participants, 194 (15.8 %) were in the first year, 272 (22.2%) were in the second year, 285 (23.3%) were in the third year, and 473 (38%) were in the fourth year of their university life.

Materials

A six-part self-administered survey questionnaire was employed as the research instrument, which contained relevant standardized tests that measured variables included in this study. Part I of the questionnaire was a brief personal profile of the respondents, in which identifies the students' demographic information, such as sex, age, educational level, GPA, their major, their nationality, parents' marital status and their state/province of residency. Other parts consisted of the following standardized scales namely Parent as Social Context Questionnaire-Revised (PSCQ; Skinner et al., 2005) to test the parenting dimensions (Part II), Basic Psychological Needs Scale (BPNS; Deci and Ryan, 2000) for testing their needs met (Part III), Rosenberg Self-Esteem Scale (RSES; Rosenberg, 1965) to determine the respondents level of self-esteem (Part IV), the University Student Engagement (USEI; Maroco, Maroco, Campos, & Fredricks, 2016) to test the level of the student's engagement in university (Part V), and College Adjustment Test (CAT; Pennebaker, Colder & Sharp, 1990) to evaluate students' adjustment in their university life (Part VI). Since the international programs were applying English language as the primary medium of instruction in all of the classes, it was assumed that students in these colleges/universities had a good command in written and oral English. Thus, no translations were made on the items in the questionnaire.

Results

Examination of the Cronbach's alphas for evaluating the reliability of PASCQ, BPNS, RSES, USEI, and CAT and their items' I-T correlations showed to be reliable for the factors: they are internally consistent with acceptable criteria ($\geq .33$). The calculated Cronbach's alpha coefficients for the scales and subscales (twelve variables) were sufficient varied from .618 to .893. The total Cronbach's Alpha for warmth, rejection, structure, chaos, autonomy support and coercion (subscales of parenting dimensions) were .876, .846, .843, .843, .874, .893, and .682, respectively. For relatedness, competence, and autonomy (subscales for BPNS) were .618, .653, and .874, respectively. The total Cronbach's Alpha for RSES, USEI, and CAT were .730, .839, and .746, respectively. Moreover, item parceling has been done based on the output of individual confirmatory factor analysis (CFA) for each variable. It has been utilized the standardized regression weights coefficients to evaluate the parcels (Factorial Algorithm) that ended up with PASCQ by 24 parcels (four parcels for each dimension, BPNS by 10 parcels, RSES by 5 parcels, USEI by 3 parcels, CAT by 3 parcels).

In terms of CFA for evaluating the construct validity, the χ^2 goodness-of-fit test (via Structural equation modeling -SEM)) was employed to test the null hypothesis that the sample covariance matrix for the proposed structure model. The results showed that the 12-factor model is statistically significant, $\chi^2(df = 879) = 2679.897$, $p < .001$, the incremental fit indices (NFI, RFI, IFI, TLI, CFI) are all above 0.90. These fit indices indicate that the model provided a very good fit relative to its null or independence model (i.e., the posited model represented between 93.1% and 95.8% improvement in fit over its null or independence model), and support the hypothesized structure of the posited model. The RMSEA value of 0.041 is good, because it is less than the range 0.05 to 0.08 as suggested by Browne and Cudeck (1993), which shows that the model fits the population covariance matrix well. The standardized regression coefficients (factor loadings) for the measurement indicators are all positive and significant by the critical ratio test ($p < .001$). Standardized loadings ranged from 0.561 to 0.964 ($M = 0.781$) where these values indicated that the indicator variables hypothesized to represent their respective latent constructs - PASCQ, BPNS, RSES, USEI, and CAT- in a reliable manner. The percentage of residual (unexplained) variances for the indicator variables ranged from 7% (i.e. 93% of the variance explained) to 68.6% (i.e. 31.4% of the variance explained).

The SEM was employed to test the model fit to the data. The indirect mediation path model hypothesized that the perceived parenting dimensions are indirectly associated with the criterion variable by mediating of BPNS,

self-esteem, and academic engagement. It was hypothesized that the more the participants perceived positive parenting dimensions (warmth, structure, & autonomy support), the higher will be their reported level of BPNS, self-esteem and academic engagement, subsequently, resulting in their higher reported levels of college adjustment and academic performance. In contrast, the higher their perceived negative parenting dimensions, the lower will be their reported level of BPNS, self-esteem and academic engagement, subsequently resulting in their lower reported levels of college adjustment and academic performance.

The findings showed that the overall chi-square goodness-of-fit index was significant, $\chi^2 (df = 959) = 4597.72$, $p < .001$. Furthermore, the incremental fit indices (NFI, IFI, TLI, CFI) are all above .9 (range: 0.902– 0.921). These fit indices indicated that the model provided a better fit relative to a null or independence model (i.e. the posited model represented between 90% to 92% improvement in fit over the null or independence model), and support the hypothesized structure of the posited indirect path model. The RMSEA values of 0.056 are also within the range (0.05 to 0.08) that suggested by Browne and Cudeck (1993) and indicates that the model fits the population covariance matrix well. Figure 1 presents the indirect model together with the significant standardized regression coefficients ($p < .05$).

Structural equation modeling (SEM) was employed to test the indirect model of the present study. The indirect mediation path model hypothesized that the perceived parenting dimensions are indirectly associated with the criterion variable of college adjustment and academic performance by mediating of BPNS, self-esteem, and academic engagement. It is hypothesized that the participants' reported parenting dimensions will have relationship with their level of BPNS, self-esteem, academic engagement, college adjustment and academic performance, such that the more their perceived positive parenting dimensions (warmth, structure, & autonomy support), the higher will be their reported level of basic psychological needs satisfaction, self-esteem and academic engagement, subsequently, resulting in their higher reported levels of college adjustment and academic performance. In contrast, the higher their perceived negative parenting dimensions, the lower will be their reported level of basic psychological needs, self-esteem and academic engagement, subsequently resulting in their lower reported levels of college adjustment and academic performance.

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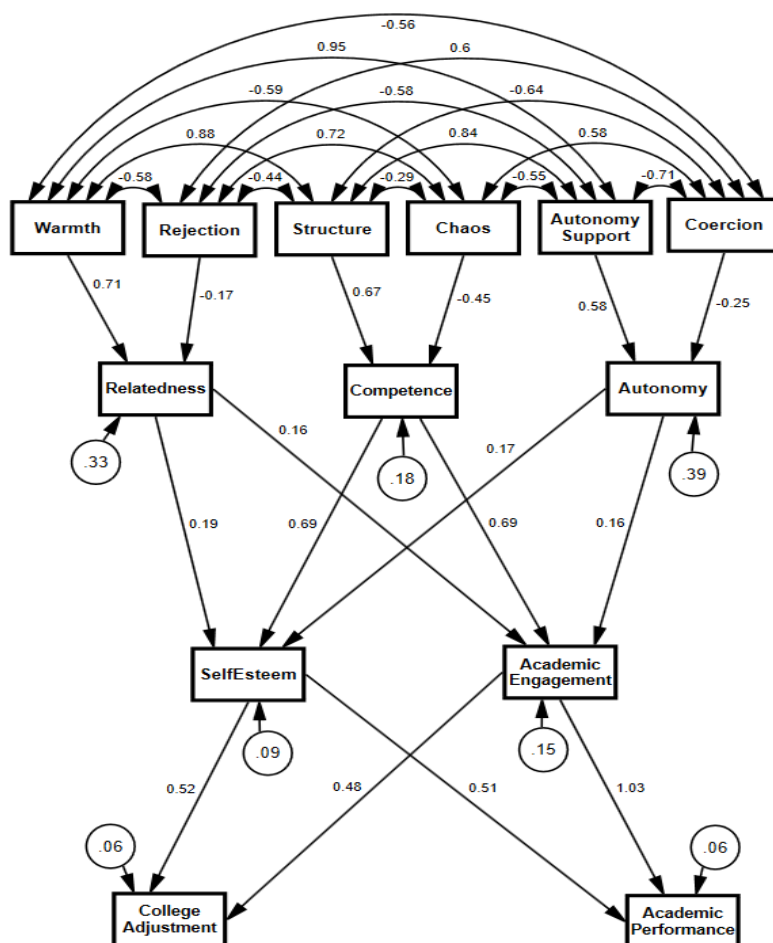


Figure 1. Indirect model (full mediation) with significant coefficients

Figure 1 shows the indirect effect of parenting dimensions on college adjustment and academic performance by mediating of basic psychological satisfactions, self -esteem, and academic engagement (full mediation), with

significant coefficients. As it can be seen, all the paths are significant. In terms of BPNS as the first level of mediation; warmth and rejection relate to relatedness ($\beta=0.74$ & -0.17 , respectively), structure and chaos relate to competence ($\beta=0.67$ & -0.45 , respectively), and autonomy support and coercion relate to autonomy ($\beta=0.58$ & -0.25 , respectively). Self-esteem and academic engagement as the second level of mediation are affected from relatedness ($\beta=0.19$ & 0.16 , respectively), competence ($\beta=0.69$ & 0.69 , respectively), and autonomy ($\beta=0.17$ & 0.16 , respectively), and subsequently these mediations (self-esteem & academic engagement) affect college adjustment ($\beta=0.52$ & 0.48 , respectively of self-esteem & academic engagement) and academic performance ($\beta=0.51$ & 1.03 , respectively of self-esteem & academic engagement). So, it is evident, the criterion variables (college adjustment & academic performance) are affected from parenting dimensions indirectly by mediation of basic psychological needs satisfaction (relatedness, competence, autonomy), self-esteem and academic engagement. In other words, positive parenting dimensions are positively, and negative parenting dimensions are negatively related to college adjustment and academic performance by mediation of basic psychological needs satisfaction, self-esteem and academic engagement. In detail, the higher the students rated level of perceived positive parenting dimensions (warmth, structure, & autonomy support) of their parents, the higher their reported level of basic psychological need satisfaction (relatedness, competence, & autonomy), self-esteem and academic engagement, and subsequently, the higher level of college adjustment and academic performance has been reported. In contrast, the higher the students rated level of perceived negative parenting dimensions (rejection, chaos, & coercion) of their parents, the lower their reported level of basic psychological need satisfaction (relatedness, competence, & autonomy), self-esteem and academic engagement, and subsequently, the lower level of college adjustment and academic performance has been reported. In sum, parenting dimensions' effect on college adjustment and academic performance through basic psychological needs satisfaction (level one), self-esteem and academic engagement (level two) mediations.

Discussion

Based on results of the study, all the paths were significant. So, it is evident, the criterion variables (college adjustment & academic performance) are affected by parenting dimensions indirectly by mediation of basic psychological needs satisfaction (relatedness, competence, autonomy), self-esteem and academic engagement. In other words, positive parenting dimensions are positively, and negative parenting dimensions are negatively related to college adjustment and academic performance by mediation of basic psychological needs satisfaction, self-esteem and academic engagement. In

detail, the higher the students rated level of perceived positive parenting dimensions (warmth, structure, & autonomy support) of their parents, the higher their reported level of basic psychological need satisfaction (relatedness, competence, & autonomy), self – esteem and academic engagement, and subsequently, the higher level of college adjustment and academic performance has been reported. In contrast, the higher the students rated level of perceived negative parenting dimensions (rejection, chaos, & coercion) of their parents, the lower their reported level of basic psychological need satisfaction (relatedness, competence, & autonomy), self – esteem and academic engagement, and subsequently, the lower level of college adjustment and academic performance has been reported. In sum, parenting dimensions' effect on college adjustment and academic performance through basic psychological needs satisfaction (level one), self-esteem and academic engagement (level two) mediations.

In terms of mediation role of basic psychological satisfaction, self-esteem and academic engagement, warm and loving parents motivate their children to be fulfilled with relatedness and experience significant and belonged to the others, resulting in increasing their self-esteem through self- worth and the belief that it enables the achieving of goals (Raboteg-Saric & Sakie, 2014; Schunck & Handal, 2011), as well as devoting high energy to engage in determined activities in the college environment. All of these are demonstrated as higher outcome such as adjusting to college and gaining greater academic achievements (Yurtseven et al., 2014; Jurisevic & Pizorn, 2013). In contrast, rejection dimension makes emerging adults experience and feel detachment and ignorance that negatively impacts the satisfaction of relatedness and feeling significant to others. This undermines self-esteem and self-appraisal and complicates their power to overcome challenges in an academic environment. At the same time, it decreases their passion to engage in academic activities that leads to problem in adjusting in college and poor performance in achieving success. Structure, as explained earlier, encompasses boundaries, expectations, and values such that it increases the levels of competence satisfaction, improves self-esteem in the form of self-worth and self-appraisal, as well as enthusiastic engagement in purposeful and rewarding activities in college enabling them to believe in themselves to adjust in college and have high active performance in learning settings. In contrast, chaotic parents who have unclear boundaries, expectations, and core values impact negatively on their children's competence fulfillment (Skinner et al., 2008). The feeling of inadequacy and incompetence decreases the level of worthiness and self – esteem align with lower of engagement in college tasks that ultimately lead the students as emerging adults to demonstrate poor adjustment as well as failing in academic performance in college. The parental

autonomy support allows students as emerging adults enjoy expressing themselves and sharing their opinions and views freely. Specifically, this dimension of parenting raises the autonomy satisfaction that motivates the emerging adults to choose what they want from their life and make independent decisions and have commitment on the choices. In short, high level of autonomy boosts the self-esteem and worthiness (Orsini et al., 2018; Ummet, 2015), at the same time improving the passion to engage actively in academic setting. High level of self-esteem and academic engagement encourage students to act independently and responsibly and achieving higher results in academic performance. On the other hand, coercive parents behave restrictively and rigidly to their children decreasing their feeling of autonomy and ability to make decisions themselves, which results to lower self-esteem and self-worth and weak engagement in academic matters. These leads the students as emerging adults to demonstrate poor adjustment as well as failing in academic performance in college.

Taken together the current study's findings are aligned with the past study and supported the hypothesis that parenting dimensions have an indirect effect on college adjustment and academic performance, as the results showed that self-esteem and academic engagement mediated the relationship between parenting dimensions, college adjustment and academic performance.

Implications

According to the aforementioned findings, parenting as a social context has indirect effects on university students' college adjustment and academic performance. The indirect effects of parenting dimensions are observable through mediators such as basic psychological needs satisfaction (relatedness, competence, & autonomy), self-esteem, and academic engagement. Conclusively, these important and practical findings could be studied and applied in relevant contexts as follows:

Implications for parents.

Parents should understand the necessity of their attention towards their children as emerging adults, because it is a very sensitive period of development such that the children require the utmost support from their parents to make crucial decisions and plan for their future. Thus, the parents are advised to make adjustments and improvements to their supportive behaviors and parent-child relationships, which not only help them to overcome potential challenges such as college adjustment and academic performance, but also grants them wellbeing and balance essential to achieve success in higher education, future career, and most importantly life. In

addition, the parents are advised to seek professional help by means of workshops and counseling.

Implications for counselors.

The findings of the effects of variables such as parenting dimensions, BPNS, self-esteem, academic engagement on college adjustment and academic performance, are utilized in counseling with students who had challenge with adjustment and performance in college. From one perspective, the counselors benefit from the assessment and evaluation tools of this study that enable them to determine the status and quality of parenting dimensions and the corresponding mediators and identify the root causes of the issue. This later allows them to create an appropriate treatment plan specific to the case at hand: in such treatment plans the counselor should allocate needed sessions to inform the parents of their importance and use proper techniques for help them act as effective parents to deal with the issues. On the other hand, by implementing proper techniques the counselor should achieve better and faster results.

Implications for researchers.

The proposed nested model is a key to understanding the students' outcomes with respect to parenting, and so, this could inspire other researchers to further explore this matter in order to develop a broader and deeper understanding of this topic. Furthermore, the standard tools and instruments for evaluation and assessment of university students, provided effective means of research in this area; thus, such methodology may be reapplied as a basis by the other researchers in this field of study. In short, the nested model fundamentally introduced and explored the relationship between the predefined variables and the role of parenting in order to provide new opportunities for further future research. The current study was actually one of the first to address and investigate the life of university students enrolled in international programs, parenting, and mediators: basic psychological needs, self-esteem, and academic engagement that serve as complimentary elements to the study's model. As a result, a better understanding of the theory behind this along with possible connections to externally relevant psychological aspects, which are to some extents unknown, would construct a solid foundation for more investigations into achieving life satisfaction, wellbeing, and happiness.

Implications for education administrators and authorities.

One of the major concerns that education administrators and authorities usually face is the increase in the number of graduates which, in turn, promotes the university's reputation and increases the number of applicants. Furthermore, the findings of this research could be utilized to improve

adjustment and performance in academic environments, and so, a set of policies and strategies should be designed and executed for such purposes. For instance, two recommended approaches could be used: trainings to boost passion, engagement, and self-esteem, or workshops to strengthen the relationships between the university students, and their parents. These methods could result in higher self-fulfillment and academic engagement, and success.

Limitations of the Study

There are a number of limitations in the current study as with all research. The first and the most important limitations of the current study was about the nature of the study as a cross sectional study, which should be considered with caution. There are no definitive conclusions can be drawn about the causal sequential effects between the predictors, mediators, and the criterion variables. The second limitation is about questionnaires that were all self-reported types. The third one, is related to the external validity due to employing selected sample and convenience method. Therefore, the findings of the current study should be interpreted with some caution because of these limitations.

Conclusions

The present study investigated the relationship between parenting dimensions, college adjustment and academic performance as well as the factors that may affect this relationship (basic psychological needs, self-esteem, & academic engagement) among university students from international programs in Bangkok. This study is known as a first step in applying all six parenting dimensions and exploring the effects of these dimensions on university students' college adjustment and academic performance. The findings supported reliability and validity of all the scales employed in the study. The findings also showed that parenting dimensions affect students' outcomes even in the higher education.

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