Negotiating the Transition to College: Singaporean Freshmen's Emotional Disclosure Offline and Online and the Relation to College Adjustment

By

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“If I have seen further it is by standing on the shoulders of giants.” — *Isaac Newton*

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Abstract

Going to college for many late adolescents can be a stressful time and soliciting support through emotional disclosure is pivotal in negotiating the transition. Guided by the social sharing of emotions framework, this study investigated the developmental change in students' adjustment during their first semester, and how individuals disclose their emotional experiences with their parents offline and online (on Facebook) to solicit support. The study examines emotional disclosure offline and online along four features—frequency, intimacy, intensity of positive and negative emotions, and elucidates how the trajectories of these features in freshmen's emotional disclosure offline and online relate to their college adjustment across the transitional first semester. Using a monthly online diary, 241 Singaporean college freshmen (M_{age} =19.44) provided responses about their emotional disclosure offline and online, and their adjustment to college experiences. Emotional disclosure offline and online differed in the four features—frequency, intimacy, and intensity of positive and negative emotions. Latent growth curve modelling showed nuanced trajectories in the four features of students' emotional disclosure, and a quadratic decrease in college adjustment across the first semester. The trajectories of frequency, intimacy, positive and negative emotional disclosure offline and online revealed different patterns of association with college adjustment. Together, these findings suggest the distinct importance of the different facets of emotional sharing offline with parents and on Facebook during the initial adaptation to college that considers the role of Singapore cultural context.

Negotiating the Transition to College: Singaporean Freshmen Emotional Disclosure Offline and Online and the Relation to College Adjustment

Attending college can be a stressful time for many adolescents that presents an important challenge to their mental and psychological well-being (see review by Crede & Niehorster, 2011). As evident by the higher education statistics, 20% to 45% of adolescents worldwide experienced a heightened sense of psychological distress during their first year in college (Zhang, 2017). Because positive college adjustment is critical to students' positive trajectory and retention in college, understanding their experiences adjusting to college and how they manage is paramount (Lee, Dickson, Conley, & Holmbeck, 2014; Rogers et al., 2018).

A key factor in managing college adjustment is to solicit social support from and connect with others (e.g., Michikyan, Subrahmanyam, & Dennis, 2015; Ranney & Troop-Gordon, 2012). An extensive body of work evidenced emotional disclosure as an important process in which individuals communicate significant emotional experiences to seek support and to establish relationships with others (Pennebaker, Zech, & Rime, 2001). Traditionally, emotional disclosure happens offline in face-to-face interactions. With the advent of social media and how deeply embedded it is in college students' lives, emotional sharing extends to online interactions (Rime, 2016). Indeed, evidence accumulates on the mutual reciprocity of emotional disclosure offline and online, showing how support in one context reinforces that from the other context over time (e.g., Trepte, Dienlin, & Reinecke, 2015; Trepte, Masur, & Scharkow, 2018). This study considers the longitudinal course of students' emotional sharing offline and online in tandem with college adjustment. Results from this study have important implications for education policies and programs aimed at providing emotional support offline and online to ease students' transition to college and support their psychological well-being.

College Transition in the Singapore Context

There is a world trend in the increasing number of 18- to 24-year-olds enrolled in 2- or 4-year colleges (40% to 60%; U.S. Department of Education, National Center for Education Statistics, 2014), including Singapore, where the requirement of a high level of education for information-based professions is driving increasing number of young people to pursue higher education (approximately 30% to 40%; Sandra, 2012). Singapore is a small nation state embedded in South-East Asia, which adopted an open policy after independence from Britain as one of its colonies. Culturally, Singapore is "probably more than anywhere else in Southeast Asia been thoroughly interpenetrated by universal or global cultural influences" (Kahn, 1998, p. 5). At the same time, Confucian ideologies, which underscore interdependence within the families, undergird the society (Tan, 2012).

Studies that examined college transition across cultural contexts highlighted the important consideration of social context and cultural norms in understanding college transitioning experiences (e.g., Azmitia, Syed, & Radmacher, 2013; Jiang, Yang, & Wang, 2017; Tao, Dong, Pratt, Hunsberger, & Pancer, 2000). In the case of Singapore, while most college students live with their parents, or live near enough to see their parents on a regular basis, the transitioning from high school to college is a significant life course event marked by increased autonomy, demands and challenges associated with the change in social and environmental conditions (Yeung & Alipio, 2013). The increase in autonomy moving from secondary school (i.e., the equivalent of high school in the U.S.) to college education is evident from less time spent at home and greater opportunity in making choices and decisions about participation in organized activities and in establishing relationships with peers and romantic partners (Yeung & Alipio, 2013). There are also distinctive characteristics of college transitioning that stem from

the influence of Confucianism in social practices in education (Tan, 2012). A central feature is the great extent to which parents continue to play a pivotal role in providing different forms of support in investing in the tertiary education of their children to increase their life chances at success in the Singapore cultural context (Tan, 2012).

The Conceptualization of Emotional Disclosure Offline and Online

According to the social sharing of emotions framework, emotional disclosure is a process through which individuals communicate significant emotional experiences within one's close social network (Rime, 2009). It is a specific instance of self-disclosure, which includes one's thoughts, feelings and experiences, that focuses on emotional experiences. A significant emotional experience has three defining characteristics: (a) it elicits positive or negative emotions of mild to strong intensity (e.g., receiving a good grade on an exam elicits positive emotions; involving in a car accident elicits negative emotion); (b) it entails personal involvement; (c) it involves high frequency of sharing—on average four to five times with the same or different individuals within one's close social network. It is distinguished from disclosing emotional experiences that are impersonal (e.g., "I'm glad it's a rainy day!") and those that are mundane and void of emotional content (e.g., "I went to town after school.") (Rime, 2009). Theoretically, the conceptualization of emotional disclosure entails these features: emotional intensity, level of intimacy, and frequency of emotional sharing.

The social sharing of emotions is originally theorized to explain emotional communication offline. Extensive diary and experimental studies assessing college students found that the extent of emotional disclosure offline is a function of three indicators, specifically the emotional intensity of experience, the extent of personal involvement, and the frequency of sharing (see review by Pennebaker et al., 2001). In an extensive review of the relations between

social sharing of emotions and individuals' psychological, social, health outcomes, researchers have noted the complexities in the conceptual relations between emotional sharing and adjustment outcomes. Studies using the diary method to assess this conceptual relation, which reflect more closely and accurately the ecological nature of the social process of emotional sharing, underscore the reciprocal relation between emotional disclosure and adjustment outcomes among individuals of different ages and across cultures (Pennebaker et al., 2001). To further instantiate this conceptual reciprocal relation of emotional disclosure and adjustment outcomes, experimental studies that investigated and manipulated emotional disclosure as the independent variable found effects on adjustment outcomes, and likewise, studies also found the effect of adjustment outcomes on emotional disclosure (Pennebaker et al., 2001; Rime, 2016). These findings instantiated understanding the reciprocal relations between emotional disclosure and adjustment outcomes.

In recent years, the social sharing of emotions framework has been extended to understand emotional disclosure on social media platforms (e.g., Bazarova & Choi, 2014; Qiu, Lin, Leung, & Tov, 2012). The conceptualization of emotional disclosure at the collective level, which involves the social propagation of emotions within one's social network, is especially relevant for understanding emotional disclosure online, in particular Facebook wall posts, status updates, pictures, and location check-in (Bazarova & Choi, 2014; Bazarova, Choi, Whitlock, Cosley & Sosik, 2017). A review of studies examining disclosure online, which included emotional disclosure, revealed emotional valency as an added indicator on top of the three found with emotional disclosure offline discussed earlier (see reviews by Bazarova, 2015; Kim & Dindia, 2011). Valency, however, was not relevant to the frequency and intimacy of emotional

disclosure, which were found to be identical for both positive and negative experiences (Pennebaker et al., 2001).

Studies examining both disclosure offline and online suggest possible differences (Bazarova, 2015; Kim & Dindia, 2011). Because emotional disclosure offline involves a trusted target within a dyadic boundary, which minimizes personal vulnerability and is primarily driven by relational development goal, individuals are more likely to disclose negative and intimate experiences (Chan & Cheng, 2016; Wright et al., 2013). In contrast, emotional disclosure online, especially on Facebook wall posts, status updates, and location check-in, involves relatively public domains with high visibility that is targeted at one's social network and is driven by social validation (i.e., seeking attention, social approval and social acceptance). With the ease in social sharing afforded by social media platforms, individuals are more likely to share frequently positive experiences online (Bazarova & Choi, 2014). Although there is some evidence suggesting that disclosure offline is characterized by greater intimacy and negativity, whereas disclosure online features greater frequency and positivity, these findings are inconclusive (Kim & Dindia, 2011; Nguyen et al., 2012). Researchers have called for greater empirical attention in examining all four features of emotional disclosure offline and online (Bazarova, 2015).

Significance of Emotional Disclosure Offline and Online during College Adjustment

The transition from high school to college is a significant life course event marked by increased autonomy, demands, and challenges associated with the collegiate environment (Kahn, Kasky-Hernández, Ambrose, & French, 2017; Lee et al., 2014). The change in social context that accompanies the transition impacts individuals' adjustment across four domains. According to Baker and Siryk (1984), academic adjustment refers to the degree students adapt to academic demands as reflected in their attitudes towards their course of study, their engagement with

material, and the adequacy of their studying and academic efforts. Social adjustment refers to the degree students integrate themselves into the social structures of the university, as opposed to experiencing difficulties with loneliness or missing of family. Personal–emotional adjustment refers to the degree of stress, anxiety, and/or physical reactions students experience in relation to the demands of college. Finally**,** institutional adjustment refers to the degree students identify with and have become emotionally attached to the university community.

With the significant adjustments to various demands of the collegiate environments, college transition can be a time of great emotional lability (Conley, Kirsch, Dickson, & Bryant, 2014; Credé & Niehorster, 2011). Numerous studies have affirmed that appropriate forms and amount of contact offline and online are important sources of social and emotional support during college transition, which relate positively to all four domains of adjustment (e.g., Azmitia et al., 2013; Jiang et al., 2017; Tao et al., 2000). Understanding the longitudinal picture of students' adjustment to college conjointly with their emotional disclosure can help pinpoint whether and how the sharing of emotional experiences support individuals in navigating the transition. Much of previous research that explored adjustment difficulties at different points during college uses single-time point assessments or cross-sectional cohort designs (e.g., Azmitia et al., 2013; Jiang et al., 2017). Two exceptions are studies by Conley et al. (2014) and Tao et al. (2005), which charted the developmental trajectory of U.S. and Chinese students' college adjustment over time, respectively, and found significant decline across different domains of adjustment. Most importantly, findings revealed how individuals who expressed feelings and concerns to seek social support from different sources experienced positive adjustment in the initial stage of transition. Other studies indicate that this bodes well for one's later adjustment in college (e.g., Jiang et al., Tao et al., 2005; Kahn et al., 2017; Wei, Russell, & Zakalik, 2005).

Despite the increase in emotional sharing with peers in late adolescence when most individuals go to college, emotional disclosure offline involving parents remains significant (Rime, Mesquita, Philippot, & Boca, 1991). Considering the social and cultural norms surrounding college transitioning endemic to the Singapore society discussed earlier— with the closely knit family and human ties that prevail, soliciting support from and staying connected with parents remains central to the adolescents (Tan, 2012). Because social media use is deeply embedded in college students' lives, researchers have identified this as a context germane to their emotional disclosure (e.g., Michikyan et al., 2015, Zhang, 2017). However, emotional disclosure online does not supplant that offline (Dienlin, Masur, & Trepte, 2017; Michikyan et al., 2015; Wright et al., 2013). Indeed, researchers have highlighted the need to examine how students communicate their thoughts and feelings offline and online because their offline and online worlds are not perfect replica of one another. They each comprises non-overlapping social networks, with different principles and motives governing and driving the disclosure process (Riech, 2017; Subrahmanyam, Reich, Waechter, & Espinoza, 2008). The few studies that considered emotional disclosure in the context of college adjustment revealed the strategic decisions in what and how students share their emotional experiences across the offline and online contexts, and underscored their reciprocal relations with college adjustment (Lindell, Campione-Barr, & Killoren, 2015; Ranney & Troop-Gordon, 2012).

Emotional disclosure offline. While one would expect diminishing degrees of disclosure to parents, timing is a critical factor during transition to college, considering the differential importance of parents and peers in the initial and later phases of transitioning (Azmitia et al., 2013; Jiang et al., 2017; Kahn et al., 2017; Tao et al., 2000). In the early phases of college, as individuals are just forming relationships, emotional disclosure with peers may be more guarded

and strategic. Individuals must decide what aspects of self to disclose to peers who are potential candidates for close friendship or romantic relationships, but not yet established in those relationships (Azmitia et al., 2013). Peer support networks are often in flux during this early phase of transitioning, and students are more likely to turn to their parents as a more stable source of support (Gefen & Fish, 2013). In addition, individuals are still adjusting to the fact that it is becoming increasingly difficult for parents to keep track of their activities, so they may not yet be as selective or strategic in what they disclose or hide from parents (Jiang et al., 2017). However, there is limited understanding of how college freshmen's emotional sharing with parents varies over time. There are some findings suggesting change in parental support and the differential relation to college adjustment over the first semester, which hint at possible developmental change in emotional disclosure offline with parents (Tao et al., 2000).

The focus on parents as the target of emotional disclosure offline in the Singapore cultural context is especially warranted, considering the role parents play in adolescents' development of autonomy during this developmental stage. Among Asian societies that have experienced global exposure and modernization early in their development (Kagitcibasi, 2017), such as Singapore, adolescents are socialized to develop a sense of autonomy-relatedness that entails a continued significance of parents as peers gained prominence during this developmental stage. As individuals gain autonomous functioning to become a self-governing agent, which involves making independent decisions and forming one's beliefs and values system, they also develop the self-other relations that entails a high degree of connection with others, in particular with parents, with the boundaries of the selves fused with others (Kagitcibasi, 2017). The emphasis on the family as the cornerstone of the Singapore society suggests that becoming an autonomous individual in adolescence necessarily entails maintaining an interdependent

relationship with one's parents, and underscores the role of parents, especially during developmental transitions (Tan, 2012).

Emotional disclosure online. Because of a reduction of nonverbal cues, greater accessibility in reaching out to one's networks, and the nonsynchronous nature of computer-mediated communication, individuals feel less inhibited and more likely to disclose their positive inner feelings online (see reviews by Bazarova, 2015; Nguyen et al., 2012). In a meta-analysis, researchers highlighted the influence of social media affordances in shaping emotional disclosure and emphasized the need to consider specific platforms when examining individuals' sharing online (Kim & Dindia, 2011). Current research on young people's use of social networking sites speaks to the importance of emotional disclosure on Facebook among college students (Lin, Tov, & Qiu, 2014; Qiu, Lin, Leung, & Tov, 2010). College students were more likely to express positive than negative emotional experiences surrounding academics, organized activities, peer and romantic relationships (e.g., Michikyan et al., 2015; Selwyn, 2009). Their deliberate portrayal of positive emotional well-being on Facebook was associated with positive outcomes, such as increased social connectedness, social support, and academic performance (see review by Desjarlais et al., 2015). Likewise, for freshmen, they were instrumental in their use of Facebook during college transition to maintain and form relationship, and share information, including emotional experiences (e.g., Selwyn, 2009; Yang & Brown, 2013; 2015; Zhang, 2017). Their disclosure on Facebook centered on positive experiences that offered a portrait of a happy and well-adjusted life, and this, in turn, contributed to positive adjustment and psychological well-being (Yang & Brown, 2013; 2016; Zhang, 2017). However, no studies to date have investigated how freshmen's emotional disclosure unfolds over time within the context of college transition and in parallel with their adjustment, especially in the Singapore cultural context.

Since the Infocomm Media Development Authority of Singapore began surveying about the use of social media in 2011, there has been an increasing trend among local adolescents and emerging adults turning to social networking sites (SNS) as a channel for communication with their family and peers. Growing up alongside computers, the Internet and digital media, social networking is the norm for communication for digital natives, which generally refer to the younger generation of teenagers and young adults aged 15-24, who are driving the use of social networks. On average, local adolescents and young adults spend 7.3 hours on these sites—the highest average engagement of social networking worldwide (worldwide average stands at approximately 6 hours; Infocomm Media Development Authority Singapore, 2015). Facebook remains the primary platform for most Singaporeans and is generally considered the leading site among local college and university students (Hew & Cheung, 2012; Lin et al., 2014; Qiu et al., 2012). Current research on Facebook use has focused mainly on Western cultural contexts, and relatively little is known about Facebook use in Singapore. The few studies, however, speak to the importance of Facebook for emotional disclosure among college students, including freshmen, in the Singapore context (Hew & Cheung, 2012; Lin et al., 2014; Qiu et al., 2012).

The Current Study

The current study has two objectives. First, I elucidate the conceptualization of college freshmen's emotional disclosure offline with parents and online, specifically on Facebook. Researchers have underscored the need to understand whether and how disclosure offline and online are defined by, and thus differ along, four features, specifically frequency and intimacy of disclosure, and intensity of positive and negative emotions (Bazarova, 2015; Nguyen et al., 2012). Towards this end, I compared the differences in these four features between emotional disclosure offline and online. There is evidence, albeit limited, indicating that emotional

disclosure offline is characterized by greater intimacy and negativity (e.g., Chan & Cheng, 2016; Wright et al., 2013), whereas emotional disclosure online greater frequency and positivity (Bazarova & Choi, 2014). Thus, I hypothesized the following:

H1a. Emotional disclosure offline is characterized by greater intimacy and negativity.

H1b. Emotional disclosure online is characterized by greater frequency and positivity

Second, this study modelled four sets of longitudinal trajectories of emotional disclosure offline and online involving frequency, intimacy, intensity of positive and negative emotions (i.e., positivity and negativity, respectively), in parallel with college adjustment from the beginning through the midpoint of first year of college. Specifically, I examined whether and how the initial level and rate of change in frequency of emotional disclosure offline and online, together with college adjustment, relate to each other, and likewise for intimacy, positivity and negativity in emotional disclosure. As discussed previously, numerous cross-sectional studies and those using single-time point evaluation revealed a decline in college adjustment in the first year (e.g., Azmitia et al., 2013; Jiang et al., 2017), and a longitudinal study documented a non-linear decrease that was characterized by a best-fitted growth model (Conley et al., 2014). Furthermore, freshmen's positive adjustment in the initial stage of transitioning bodes well for one's later adjustment in college (Jiang et al., Kahn et al., 2017; Tao et al., 2005; Wei et al., 2005). Although parents remain a stable and important source of support during the initial period of college adjustment (e.g., Gefen & Fish, 2013; Kahn et al., 2017), there is limited understanding of how freshmen's emotional sharing with parents to solicit support varies over time. Similarly, previous studies with college freshmen revealed their extensive use of Facebook in their transition to college (e.g., Selwyn, 2009; Yang & Brown, 2013; Zhang, 2017), but they rarely investigated how freshmen's emotional disclosure on Facebook unfolds over time. Most

importantly, with findings suggesting change in freshmen's solicitation of parental support and the differential relations to college adjustment over the first semester (Tao et al., 2000; Wei et al., 2005), and how emotional disclosure on Facebook contributed to positive college adjustment (Yang & Brown, 2013; 2016; Zhang, 2017), I explored these processes in tandem and elucidate how their growth factors relate to one another. Based on this discussion, I formulated the following hypotheses and research questions:

H2a. College adjustment is characterized by a non-linear decrease.

H2b. Initial adjustment is negatively related to the rate of change in adjustment.

RQ1. For each facet of emotional disclosure offline with parents, specifically frequency, intimacy, positivity and negativity, what is the trajectory—in terms of the initial level and rate of change (i.e., growth factors) and the relation between them?

RQ2. For each facet of emotional disclosure online (on Facebook), what is the trajectory and the relation between the growth factors?

RQ3. How does each facet of emotional disclosure offline and online relate in parallel to college adjustment?

Method

Sample

Participants (N = 241; M_{age} =19.44; 51.7 % females; 80% Chinese, 10.8% Malay, 5% Indians, and 4.2% Other) included freshmen from different higher institutes of education, including vocational and technical institutions, school of the arts, and universities in Singapore. The ethnic composition of the sample approximated the Singapore population, with 74.3% Chinese, 13.4% Malay, 9.1% Indian, and 3.2% categorized as Others (Singapore Department of Statistics, 2010). Participants resided mostly at home with parents (86.4%), and the remaining on

campus housing (12.3%), or other alternative housing arrangement (1.3%). Most participants were from middle-high income families (56.1%), and the rest from middle and low-middle income families (28.2% and 15.5%, respectively).

Procedure

After the study was approved by the institutional review board of the National University of Singapore, the first author leveraged on her personal contacts to help with the study recruitment of college freshmen. These social contacts included former work colleagues, who are principals and teachers, friends, and family members, and they were provided a brief description of the main purpose of the study. Those who were willing to help with the recruitment of college freshmen were provided with an electronic recruitment flier. Likewise, the electronic recruitment flier was posted on the first author's social media accounts. An initial sample of 262 first-year students were recruited and, using snowballing technique, an additional 138 students were located. A total of 400 students were invited by e-mail to participate in a study on various aspects of freshmen's lives.

Participants completed an informed consent online prior to the start of the study. This study uses the online diary method—a well-established and common approach in assessing actual emotional disclosure offline and online (e.g., Bazarova & Choi, 2014; Pennebaker et al., 2001)—comprising qualitative and quantitative measures. To examine emotional disclosure offline, participants provided monthly diary entry to qualitative measures assessing the emotional experiences they shared with their parents. To assess emotional disclosure on Facebook—the predominant social media platform for college students (e.g., Bazarova et al., 2017; Qiu et al., 2012), participants befriended the researcher for the duration of the study, following the procedure outlined in previous studies (e.g., Park et al., 2016). Facebook posts including status

updates, wall posts, pictures, location check-in, and tags were collected (jointly be referred to as "posts" throughout this manuscript). Participants also provided responses to quantitative measures on demographics and college adjustment.

At Time 1, in the week prior to the start of the academic year, 400 first-year Singapore students from higher institutes of education were invited to participate in the study. Among those eligible—those who have an active Facebook account for at least one year (n = 369)—291 (78.86%) participated. They were told that the study lasts one semester (i.e., four to five months), with four-time points of data collection. All freshmen who enrolled in the study completed the first round of diary entry in the second week of the first month during the semester. Of those eligible (i.e., providing at least one instance of emotional disclosure offline and online) and invited at Time 2 in the second week of the second month during the first semester (n = 285), 267 participated. At Time 3, those eligible and invited in the second week of the third month of the semester (i.e., 3 months after Time 1; n = 250), 241 participated. Finally, at Time 4, those eligible and invited in the second week in the final month of the semester (n = 211), 201 participated. This yielded a final longitudinal sample of 201 who had data available on four-time points. The final sample (n = 201) did not differ significantly from cases that were dropped because of insufficient data (n = 90) on key demographics: mother's education, $t(225) = 1.04$, $p = .30$, father's education, $t(217) = .83$, $p = .41$, high school grades, $t(271) = 1.34$, $p = .20$, or family income, $t(242) = .40$, $p = .69$. The final sample also did not differ from those who have insufficient data on the emotional disclosure and college adjustment measures (*ps* = .07 - .11). In comparing the final sample to the overall population from which it was drawn, the final sample did not differ significantly in key demographics: mother's education, $t(231) = 1.40$, $p = .16$, father's education, $t(218) = 1.64$, $p = .10$, or high school grades, $t(207) = .00$, $p = .99$. However,

the final sample did evidence higher family income, $t(212) = 5.28$, $p < .001$.

Measures

Demographic information. Participants provided information on gender, age, ethnicity, college generational status, residential status, family income, parental education, and high school grades. These variables were examined to determine the representativeness of the current sample, compared to the broader population from which it was drawn.

College generational status. Participants stated if they are first or second generation in the family receiving tertiary education; 56.4% are first generation college students.

Residential status. Three categories of residential status were considered—on-campus, at home, and rental apartment off-campus.

Family income. Family income was examined using six categories ranging from 1 (less than $1000) to 6 ($5,000 or more), with a mean of 4.75 (SD = 1.65).

Parental education. Participants provided information about their fathers' and mothers' educational level using six categories ranging from 1 (did not complete the primary school leaving examination; the equivalent of elementary school in the United States) to 6 (bachelor's degree and above; the equivalent of college degree in the United States). The means of father's and mother's education were 2.42 (SD = 1.56) and 2.72 (SD = 1.52), respectively.

High school grades. A composite score was obtained from participants' grades from four main subjects—English, Math, Science and Mother Tongue.

Emotional disclosure offline with parents (Time 1 to 4). Participants provided details of two emotional experiences they have recently shared with their parents using open-ended questions derived from previous studies assessing emotional experiences (e.g., Miyamoto, Uchida, & Ellsworth, 2010). Table A in the Appendix provides the actual wording of all

questions. For each emotional experience, the study assessed four aspects. A composite score for each aspect was obtained by averaging the scores across the two emotional experiences.

Frequency. Participants rated the extent to which they shared similar experiences with their parents in the past one month using a 5-point scale ranging from 1 (not often) to 5 (very often).

Intimacy. Participants rated the extent to which the disclosed emotional experience was personal or private using a 5-point scale ranging from 0 (not at all) to 4 (very much).

Valency and intensity of emotions. Participants also rated the extent to which they felt 12 positive (i.e., interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive, active, happy, friendly) and 11 negative emotions (i.e., distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery, afraid, tensed) that are adapted from the Positive and Negative Affect Schedule using a 5-point rating scale 0 (*not at all*) and 4 (*very strongly*) (PANAS; Watson, Clark, & Tellegen, 1988). Cronbach alphas for positive emotions: Time 1 = .89; Time 2 = .93; Time 3 = .94; Time 4 = .94, and for negative emotions: Time 1 = .89; Time 2 = .91; Time 3 = .87; Time 4 = .88. Participants also provided a general rating of the extent to which they felt positive and negative emotion, using the same 5-point scale. The ratings of overall positive and negative emotions were analyzed to check the general valence for the emotional experience participants described, following the common procedure outlined in previous research (e.g., Miyamoto et al., 2010).

Emotional disclosure on Facebook (Time 1 to 4). Participants' Facebook posts from August to November 2018 were extracted and analyzed by two coders at each time point. Coding procedures are described in the next section (Planned Analyses). To check the general valence of each emotional post, coders provided ratings on the overall positive and negative emotional

intensity. In addition, coders also rated these emotional experiences on 12 positive and 11 negative emotions mentioned earlier on emotional disclosure offline. Cronbach alphas for positive emotions: Time 1 = .95; Time 2 = .96; Time 3 = .95; Time 4 = .96, and negative emotions: Time 1 = .87; Time 2 = .75; Time 3 = .83; Time 4 = .72.

Use of Facebook (Time 1 to 4)—Following the common procedure used to assess Facebook use (e.g., Yang & Brown, 2015), participants indicated, on average, the number of minutes they spent daily on Facebook, the number of years they had been using Facebook, the number of Facebook friends they had at that time, and whether or not their Facebook friends included their parents. Most participants had their parents as Facebook friends (88.9%).

Student Adjustment to College Questionnaire (SACQ; Time 1 to 4). Participants provided responses to the SACQ (Baker & Siryk, 1984), which comprises four subscales that assess the extent to which students adjust to college in four domains, on a 9-point scale from 1 (doesn't apply closely at all) to 9 (applies very closely). Items referring to residential campuses are not applicable to commuter schools (e.g., "Lonesomeness for home is a source of difficulty for me now," and "I enjoy living in a college dormitory") and were omitted. The academic domain consisted of 24 items (e.g., "I am enjoying my academic work at school"); the social domain consisted of 20 items (e.g., "I am very involved with social activities in school") ; the personal–emotional domain consisted of 15 items (e.g., "I haven't been sleeping very well"), and the institutional domain consisted of 15 items (e.g., "I wish I were at another school"). A composite comprising the four subscales yielded an index of students' overall adjustment (full-scale adjustment score). Cronbach alphas for the academic domain were: Time 1 = .64; Time 2 = .78; Time 3 = .61; Time 4 = .69. For the social domain: Time 1 = .63; Time 2 = .63; Time 3 = .60; Time 4 = .69. For the personal-emotional domain: Time 1 = .65; Time 2 = .64; Time 3 = .71;

Time 4 = .75. For the institutional domain: Time 1 = .63; Time 2 = .68; Time 3 = .73; Time 4 = .60, and overall college adjustment full-scale: Time 1 = .61; Time 2 = .82; Time 3 = .65; Time 4 = .74. The SACQ has demonstrated reliability and validity across different Asian cultural contexts (e.g., Tao et al., 2000).

Planned Analyses

Participants' Facebook posts over the four months were first deidentified before they were assigned to a team of two undergraduate research assistants, who manually reviewed the posts and identified material pertinent to each of the four features of emotional disclosure. Coders were trained on the coding procedure over one month following the 6-step process outlined in Krippendorf (2012) until they consistently exceed adequate reliability standards (κ's > .6 on all variables of interest). After training, 20% of all transcripts were double coded to ensure continued reliability. Inter-rater reliability ranged from .70 to .85, which indicates good inter-rater agreement. Table B in the Appendix provides the coding scheme that specifies the 6-step process and includes samples of participants' extracted Facebook posts.

Every emotional Facebook post was coded using all available text and photo information. The unit of analyses for coding was a full post and all codes presented below were coded independently. Thus, a post could contain any combination of the codes below (e.g., a status update could contain both positive and negative affect, only one of these, or neither).

Frequency. Coders calculated the percentage of emotional posts (out of the total number of posts) in a month.

Intimacy. Coders rated the extent to which each emotional experience posted was personal or private using a 5-point scale ranging from 0 (not at all) to 4 (very much).

Valency and intensity of emotions. Coders rated the degree of positive and negative

emotions using a 5-point scale with labels at 0 (*not at all*) and 4 (*very strongly)* to check the general valence of each emotional post. They also rated the extent to which each post described specific positive and negative emotions adapted from the PANAS (Watson et al., 1988) using the same 5-point rating scale. Following the procedure outlined in Ehrenreich and Underwood (2016) for coding emotional disclosure online, positive emotion was coded whenever the poster discussed a positive emotional experience (e.g., discussing a success) or posted in a way that conveyed a highly positive tone (e.g., "SO YOU THINK YOU CAN DANCE FINALE TONIGHT!!! ☺"). Negative emotion was coded whenever the poster discussed a negative emotional experience (e.g., death of a relative) or posted in a way that conveyed a highly negative tone (e.g. "made it all the way home before realizing I left my keys in class…FML!!!"). Both positive and negative emotions were coded whenever the poster discussed an emotional experience that comprised both emotions (e.g., seeing a crush but too scared to approach him) or posted in a way that conveyed a highly mixed tone (e.g. "Guess who I saw!?! Tommm! :D But, I was stepping into class and couldn't say hi, sad!!!).

Parallel Growths in Emotional Disclosure & College Adjustment

The non-significant result from Little's Missing Completely at Random test showed that the missing data were not systematic, χ^2 (8740) = 8604.55, p = .85. This allowed for missing data to be handled by full information maximum likelihood imputation (Kaplan, 2009). Maximum likelihood (ML) estimation was used, which takes the mean and variance as parameters and given the model, finds parametric values that make the observed results the most probable. In evaluating each model, the fit indices examined include the χ^2 statistic, the comparative fit index (CFI), the root mean square error of approximation (RMSEA), and the standardised root mean square residual (SRMR). Acceptable model fit is indicated by CFI above .90, RMSEA below

.08, and SRMR with values of 1.0 or lower. CFI larger than .95, RMSEA and SRMR smaller than .05 are considered good fit (Hu & Bentler, 1999).

Data analyses proceeded over three steps. First, using t-tests, I examined the differences in emotional disclosure offline and online for each facet, specifically frequency, intimacy, positivity and negativity, separately. A one-factor college adjustment was created with four measured domains—social, academic, emotional and institutional adjustment. Longitudinal invariance of the college adjustment factor was established across four-time points and composite scores for emotional disclosure and college adjustment were computed at each time point. Second, using a random sample of 20 participants, I plotted and explored the variability in the level and trend of college adjustment, and emotional disclosure offline and online for each facet separately. To determine the developmental growth trajectories of these three processes, individual baseline growth models were fitted following the procedure outlined in Kaplan (2009). This step was necessary because attempts to model simultaneously growths in emotional disclosure processes and college adjustment can lead to problems with specification (i.e., negative residual variances).

Using Latent Growth Curve Modelling (LGM), I examined the trajectories of emotional disclosure offline and online and college adjustment across time. Repeated measures data were used as indicators of latent variables to model baseline levels (measured as intercepts) and rates of change (measured as slope factors) to describe mean trajectories and interindividual differences in trajectories. In each of the nine baseline latent growth models, the four different time points of a given composite score (i.e., emotional disclosure offline and online and college adjustment) were used as indicators, and I estimated and compared the linear, quadratic and best-fitted models. In all nine models, the loadings of the intercept factor were constrained to 1 on

each time point. In the linear model, the factor loadings for slope were set at 0, 1, 2 and 3; in the quadratic model, the factor loadings were set at 0, 1, 4, and 9, and in the best-fitted model, the factor loadings were set at 0 and 1 for time 1 and 2, respectively, and freely estimated for Time 3 and 4. In the third step, four sets of parallel process model were estimated to evaluate the associations of the growth parameters (i.e. intercepts and slopes) for each facet of emotional disclosure offline and online with college adjustment.

Results

The one-factor college adjustment model revealed acceptable to excellent fit across four-time points—Time 1: χ^2 (2, N = 240) = 15.04, p = .001, RMSEA = .17, SRMR = .04, CFI = .90; Time 2: χ^2 (2, N = 240) = 3.08, p = .21, RMSEA = .05, SRMR = .03, CFI = .99; Time 3: χ^2 (2, N = 240) = .17, p = .92, RMSEA = .00, SRMR = .00, CFI = 1.00; and Time 4: χ^2 (2, N = 240) = 37.54, p < .001, RMSEA = .10, SRMR = .10, CFI = .90. These analyses justified the use of a single score for college adjustment in subsequent analyses. Thus, for subsequent longitudinal analysis, a composite score was created with four college adjustment indicators by averaging the standardized measures.

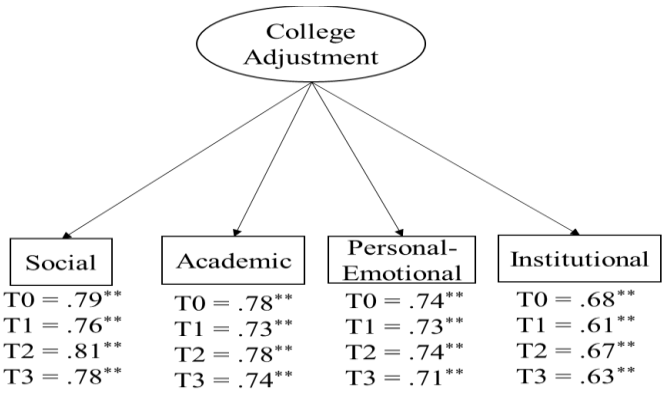

Figure 1. One-factor measurement model of college adjustment; all factor loadings are standardized. T_0 = first-time point in August, T_1 = second-time point in September, T_3 = third-time point in October, T_4 = fourth-time point in November.
*p < .05. **p < .01

Multiple group CFAs were used to establish longitudinal measurement invariance of the

one-factor college adjustment model across four-time points. Strongly supporting longitudinal measurement invariance, the longitudinal configural invariant (in factorial structure), longitudinal metric invariant (in factor loadings) and longitudinal scalar invariant (in item intercepts) models provided acceptable, RMSEAs < .10 and CFIs > .90. Further supporting longitudinal measurement invariance, observed differences in goodness-of-fit indices for constrained versus unconstrained measurement models were below the recommended cutoff value of CFI < .01 for inferring measurement invariance (Cheung & Rensvold, 2002). Thus, emotional disclosure and college adjustment factors demonstrated longitudinal invariance, thereby enabling meaningful comparisons of scores across time.

Descriptive statistics, Correlations, and T-Tests

The sample size provided adequate power to detect small to moderate effects (Cohen, 1992). Means, standard deviations, and correlations among the different facets of emotional disclosure and adjustment at each time-point are presented in Table 1. As expected, college adjustment correlated positively with each other across four time points. For emotional disclosure offline, positivity and negativity revealed low positive relations, whereas frequency and intimacy revealed moderate positive associations. On the other hand, for emotional disclosure online, positivity and negativity had low negative relations, and intimacy had moderate positive associations with positivity. Broadly speaking, negativity in emotional disclosure offline had low positive associations with college adjustment across the four time points. In contrast, the frequency of and positivity in emotional disclosure online indicated low positive associations with college adjustment across the four time points.

T-tests were used to compare the frequency, intimacy, positivity and negativity of emotional disclosure offline and online (Refer to Table 2). Across four-time points intimacy,

positivity and negativity of emotional disclosure offline were greater than that online, except for intimacy at Time1 which did not indicate significant differences between offline and online. Thus, Hypothesis 1a was partially supported. Across four-time points, frequency but not positivity of emotional disclosure online was greater than that offline; Hypothesis 1b was thus partially supported.

Growth Models: Baseline Latent Growth Models

Initial status and growth rate (i.e., growth factors) were estimated using a random sample of 20 participants to explore the variability in both level and trend in emotional disclosure offline and online and college adjustment over four waves of data. Figure 2a and 2b show the possible empirical trajectories for frequency, intimacy, intensity of negative and positive emotions for emotional disclosure offline and online, respectively, and Figure 2c on college adjustment.

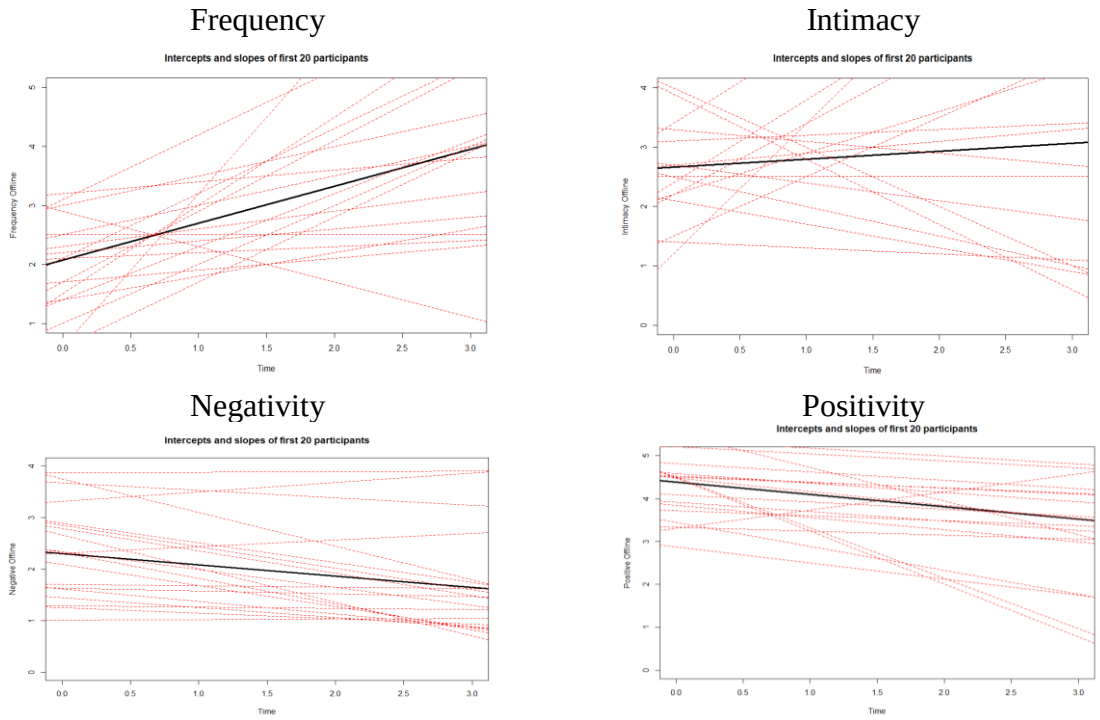

Figure 2a. Twenty random trajectories in red, with the average intercept and slope in black for each facet of emotional disclosure offline, specifically frequency, intimacy, intensity of positive and negative emotions.

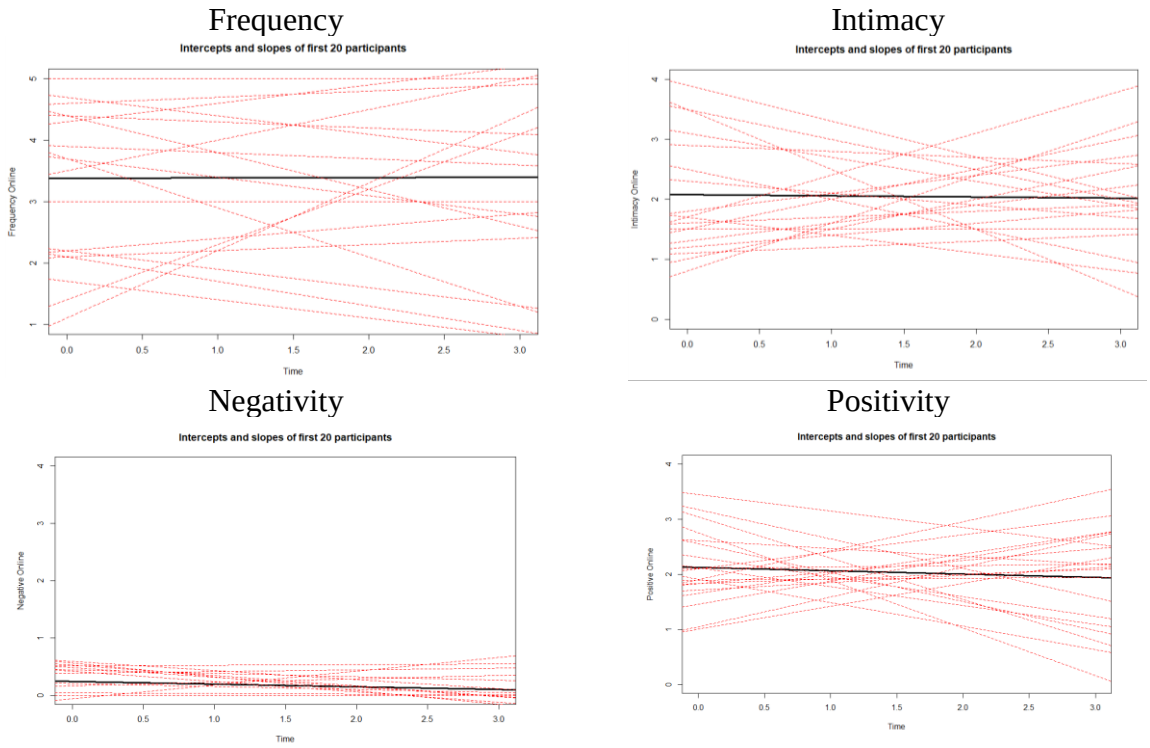

Figure 2b. Twenty random trajectories in red, with the average intercept and slope in black for each facet of emotional disclosure online, specifically frequency, intimacy, intensity of positive and negative emotions.

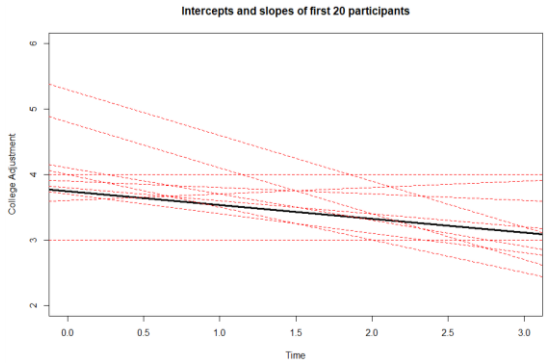

Figure 2c. Twenty random college adjustment trajectories in red, with the average intercept and slope in black.

Table 1. Correlations and Descriptive Statistics for College Adjustment and Facets of Emotional Disclosure Across Time.

	C_0	C_1	C_2	C_3	N_0	N_1	N_2	N_3	P_0	P_1	P_2	P_3	F_0	F_1	F_2	F_3	I_0	I_1	I_2	I_3	M	SD
C_0	1	-	-	-	-.05	-.03	-.05	-.02	.13*	.11*	.05	.03	-.01	.04	.07	.04	.07	-.07	.16*	.10	-	-
C_1	.43**	1	-	-	-.07	.02	-.06	-.04	.04	.03	.04	.01	.12*	.03	.03	.06	-.02	-.04	.12*	.06	-	-
C_2	.33**	.30**	1	-	-.05	.02	.05	-.04	.16*	.05	-.01	.00	.03	.06	.19**	.16*	.02	-.00	.03	.04	-	-
C_3	.22**	.35**	.51**	1	.22	-.07	-.01	-.05	.14*	.03	-.03	.10*	-.03	.11*	.13*	.02	.01	.03	.11*	-.01	-	-
N_0	.15*	.06	.08	.12*	1	.07	.03	-.03	-.16*	.02	-.18**	-.15*	.02	-.07	-.06	.02	-.13*	-.03	-.21**	-.16*	.25	.31
N_1	.10*	.05	.04	.10*	.84**	1	.06	.09	-.10*	-.27**	-.12*	.18**	.09	.01	.16*	.19**	-.08	-.23**	-.06	.06	.18	.23
N_2	.10*	.04	.06	.13*	.69**	.83**	1	-.03	-.04	-.07	-.08	-.10*	-.08	.06	-.13*	-.02	-.02	.03	-.02	-.08	.02	.14
N_3	.05	.01	.06	.11*	.67**	.82**	.85**	1	.02	-.14*	-.03	.03	.04	-.10*	.19**	.14*	.10*	-.06	-.00	-.05	.28	.38
P_0	-.00	-.00	-.10	-.07	.22**	.23**	.13*	.08	1	-.03	.02	.05	-.11*	.20**	.08	.13*	.44**	-.06	.10*	-.04	2.05	.65
P_1	-.04	-.07	-.14*	-.07	.21**	.24**	.20**	.16*	.79**	1	.01	-.12*	-.03	.05	-.12*	-.06	-.11*	.31**	.09	-.10*	1.97	.68
P_2	-.02	-.02	-.10*	-.07	.21**	.27**	.19**	.24**	.64**	.81**	1	.17**	-.06	-.08	-.11*	-.06	.07	-.05	.41**	.33**	1.86	.71
P_3	-.02	-.05	-.09	-.07	.19**	.24**	.23**	.24**	.62**	.78**	.79**	1	.16*	-.03	.09	.14*	.05	-.09	-.00	.36**	2.40	.75
F_0	-.03	-.01	.00	-.09	.19**	.20**	.14*	.16*	-.08	-.10*	-.05	-.04	1	.03	.08	.01	-.11*	-.07	-.08	.08	3.80	1.59
F_1	-.04	-.05	-.00	.06	.09	.04	.10*	.03	-.01	-.04	-.22**	-.10*	.05	1	.11*	.14*	.03	.04	-.08	-.04	3.86	1.89
F_2	.08	.10*	.09	.10*	.03	.00	-.02	.07	-.08	-.03	.04	.04	.16*	-.38**	1	.13*	-.08	-.09	-.10*	-.02	3.68	1.72
F_3	.07	.10*	.02	.06	-.07	-.10*	-.09	-.05	-.06	-.04	-.10*	-.08	-.23**	.00	.20**	1	.09	-.03	-.03	.14*	4.96	1.90
I_0	.01	-.03	-.01	-.09	.28**	.29**	.25**	.28**	.11**	.06	.05	.06	.59**	-.03	.12*	.28**	1	-.01	.09	.07	1.86	1.18
I_1	-.03	-.07	-.03	.02	.08	.04	.07	.02	-.04	-.04	-.17*	-.09	.05	.70**	.34**	.01	-.14*	1	.11*	-.05	1.76	1.03
I_2	-.01	-.01	-.03	.03	-.02	-.02	-.00	-.01	.04	.04	.09	.12*	-.07	-.00	.02	-.01	-.03	-.07	1	.22**	1.68	1.37
I_3	-.02	-.05	-.02	.05	-.02	.03	.09	.02	.10	.05	.08	-.10*	.06	.20**	.10*	-.04	-.13*	-.10*	-.14*	1	2.41	1.36
M	3.59	3.52	3.12	3.17	2.51	2.14	2.17	1.88	4.21	3.93	3.32	3.61	1.79	2.89	2.08	3.56	1.89	3.78	3.89	3.92		
SD	.65	.56	.57	.56	1.04	1.05	1.08	.96	.93	1.18	1.32	1.38	.88	1.19	1.93	2.08	1.04	1.29	2.34	1.98		

Note. C = college adjustment; N = negativity; P = positivity; F = frequency; I = intimacy; M = Mean; SD = standard deviation; $_0$ = first-time point, $_1$ = second-time point, $_2$ = third-time point, $_3$ = fourth-time point. The lower half of the table reflects the coefficients for emotional disclosure offline, and the upper half for emotional disclosure online. $^{*}p < .05$. $^{**}p < .01$

Table 2.

Paired-sample t-Tests, Means and Standard Deviations on the Different Dimensions of Emotional Disclosure Offline and Online

	Offline		Online		
Frequency	Mean	SD	Mean	SD	t
T_0	1.79	.88	3.80	1.59	16.03**
T_1	2.89	1.19	3.86	1.89	6.50**
T_2	2.08	1.93	3.68	1.72	9.49**
T_3	3.56	2.08	4.96	1.90	7.88**
Intimacy					
T_0	1.89	1.04	1.86	1.18	.30
T_1	3.78	1.29	1.76	1.03	18.82**
T_2	3.89	2.34	1.68	1.37	12.96**
T_3	3.92	1.98	2.41	1.36	8.71**
Positivity					
T_0	4.21	.93	2.05	.65	28.82**
T_1	3.93	1.18	1.97	.68	22.92**
T_2	3.32	1.32	1.86	.71	14.96**
T_3	3.61	1.38	2.40	.75	11.94**
Negativity					
T_0	2.51	1.04	.25	.31	32.51**
T_1	2.14	1.06	.18	.23	28.17**
T_2	2.17	1.08	.02	.14	31.49**
T_3	1.88	.96	.28	.38	24.27**

Note. SD = Standard Deviation; T_0 = first-time point; T_1 = second-time point; T_2 = third-time point; T_3 = fourth-time point.
** $p < .001$

Initial status & growth rate. Following which, the linear, quadratic and best-fitted baseline growth models were estimated for the different features of emotional disclosure offline and online, as well as college adjustment separately (see Figures 3a to 3c). Tables 3a and 3b present the parameter estimates and fit statistics for baseline models on emotional disclosure and college adjustment, respectively.

Because the growth processes for each of the four features of emotional disclosure offline and online have not been examined previously, the growth factors and their relations were investigated in the current study (RQ1 and RQ2 for emotional disclosure offline and online,

respectively). For negativity in emotional disclosure offline, the quadratic baseline model demonstrated acceptable fit. The chi-square difference tests evidenced the quadratic baseline model was a better fit than the linear and best-fitted models, which provided a poor fit across the various alternative fit indices. Both the chi-square difference test and BICs pointed to the quadratic model as the most fitting model. The initial level of negativity in emotional disclosure offline was negatively associated with the rate of change. For positivity, frequency and intimacy in emotional disclosure offline, the best-fitted baseline models demonstrated excellent fit. The chi-square difference tests evidenced the best-fitted baseline models were a better fit than the linear and quadratic models, which provided a poor fit across the various alternative fit indices. Both the chi-square difference test and BICs pointed to the best-fitted models as the most fitting models. The initial level of positivity was not significantly associated with the rate of change, and likewise for frequency and intimacy.

For negativity in emotional disclosure online, the linear baseline model demonstrated excellent fit. The chi-square difference tests evidenced the linear baseline model was a better fit than the quadratic and best-fitted models, which provided a poor fit across the various alternative fit indices. Both the chi-square difference test and BICs pointed to the linear model as the most fitting model. The initial level of negativity was negatively associated with the rate of change. For positivity and intimacy in emotional disclosure online, the best-fitted baseline models demonstrated acceptable fit. The chi-square difference tests evidenced the best-fitted baseline models were a better fit than the linear and quadratic models, which provided a poor fit across the various alternative fit indices. Both the chi-square difference test and BICs pointed to the best-fitted models as the most fitting models. The initial level of positivity was not significantly associated with the rate of change, and likewise for intimacy. For frequency of emotional

disclosure online, the quadratic baseline model demonstrated acceptable fit. The chi-square difference tests evidenced the quadratic baseline model was a better fit than the linear and best-fitted models, which provided a poor fit across the various alternative fit indices. Both the chi-square difference test and BICs pointed to the quadratic model as the most fitting model. The initial level of frequency was positively associated with the rate of change.

For college adjustment, the quadratic baseline model demonstrated acceptable fit. The chi-square difference tests and BICs evidenced the quadratic model as a better fit than the alternative models, which indicated poorer fit across different alternative fit indices. The significant longitudinal change in college adjustment over the first semester evidenced decrease; Hypothesis 2a was thus supported. The initial level of adjustment indicated a significant negative relation with rate of decrease; Hypothesis 2b was thus supported.

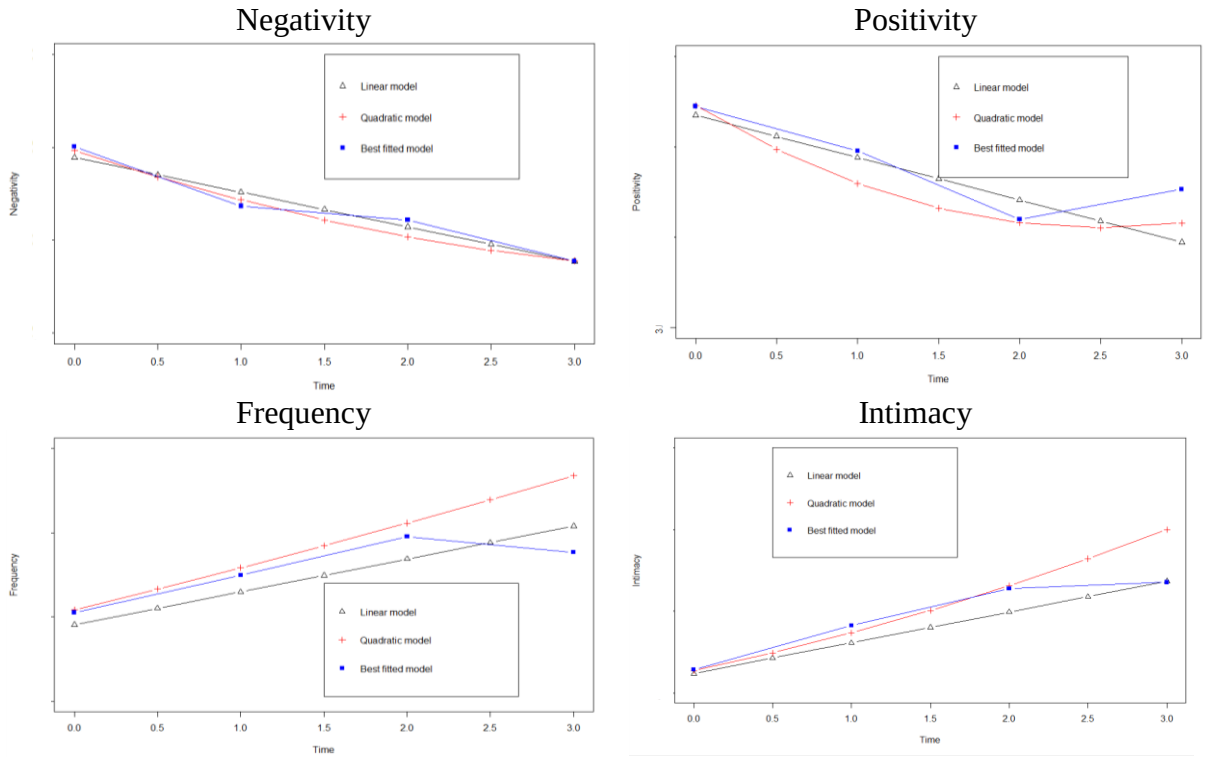

Figure 3a. Linear (black), quadratic (red) and best-fitted (blue) basic LGM models estimated for the four facets of emotional disclosure offline. For intensity of negative emotions, the quadratic (red) baseline model was the best fitting model; for intensity of positive emotions, frequency and intimacy, the best-fitted (blue) baseline models were the best fitting models.

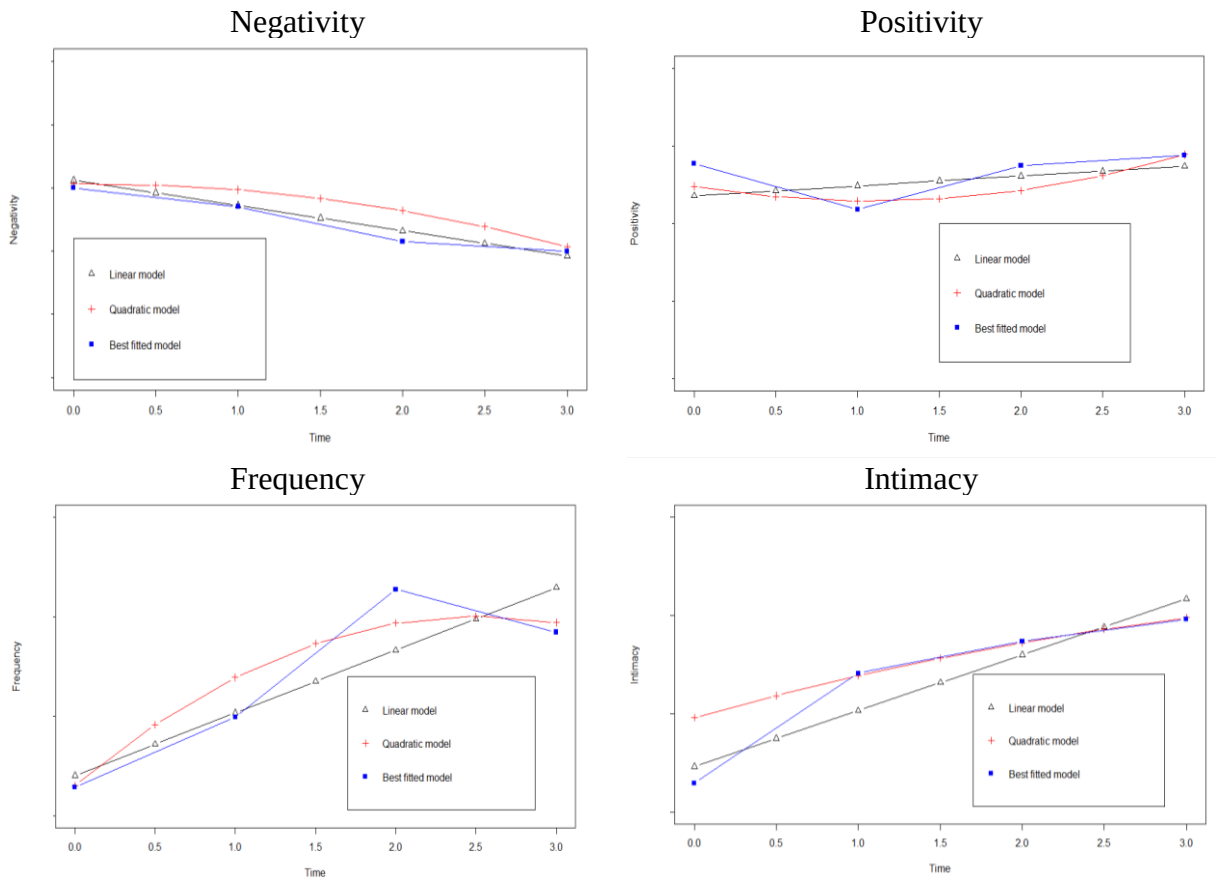

Figure 3b. Linear (black), quadratic (red) and best-fitted (blue) basic LGM models estimated for the four facets of emotional disclosure online. For negativity, the linear (black) baseline model was the best fitting model; for positivity, the best-fitted (blue) baseline model was the best fitting model; for frequency, the quadratic (red) baseline model was the best fitting model; for intimacy, the best-fitted (blue) baseline model was the best fitting model.

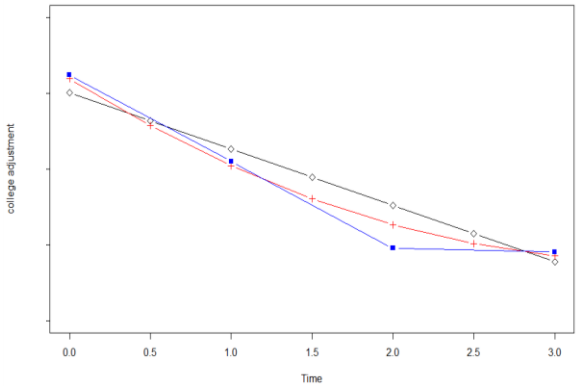

Figure 3c. Linear (black), quadratic (red) and best-fitted (blue) basic LGM models estimated for college adjustment. The quadratic model (red) was the best fitting model.

Table 3a.

Baseline Models for Different Facets of Emotional Disclosure Offline and Online: Fit Indices and Estimates.

	Goodness of Fit							Estimates	
	Model	RMSEA	CI	CFI	SRMR	BIC	χ^2	df	Intercept β (SE)	Slope (SE)
Negativity Offline	Linear	.21	.17, .26	.94	.16	1951.39	59.41**	5	2.45**(.07)	-.81**(.02)
	Quadratic	**.06**	**.02, .04**	**.95**	**.06**	**1950.32**	**52.85****	**4**	**2.48**(.07)**	**-1.30**(.05)**
	Best-fitted	.26	.21, .32	.93	.13	1968.10	70.64**	3	2.72**(.07)	-1.17**(.04)
Positivity Offline	Linear	.30	.26, .35	.86	.11	2439.46	113.56**	5	4.69**(.06)	-.83**(.03)
	Quadratic	.28	.23, .33	.90	.09	2409.39	78.02**	4	4.73**(.06)	-1.75**(.06)
	Best-fitted	**.07**	**.02, .04**	**.97**	**.06**	**2361.59**	**24.64****	**3**	**4.71**(.06)**	**-1.00**(.04)**
Frequency Offline	Linear	.14	.09, .19	.95	.12	3335.91	28.23**	5	3.27**(.09)	.49**(.04)
	Quadratic	.14	.08, .20	.96	.15	3334.91	21.75**	4	3.35**(.10)	1.09**(.10)
	Best-fitted	**.00**	**.00, .10**	**1.00**	**.02**	**3321.24**	**2.60**	**3**	**3.09**(.10)**	**.46**(.07)**
Intimacy Offline	Linear	.10	.05, .15	.87	.16	3283.99	16.44**	5	3.47**(.09)	.39**(.04)
	Quadratic	.11	.06, .17	.92	.15	3289.09	16.06**	4	3.49**(.10)	.51**(.10)
	Best-fitted	**.01**	**.03, .06**	**.99**	**.04**	**3287.49**	**8.98**	**3**	**3.30**(.09)**	**.39**(.06)**
Negativity Online	**Linear**	**.00**	**.00, .04**	**1.00**	**.03**	**299.94**	**1.72**	**5**	**.43**(.01)**	**-.14**(.01)**
	Quadratic	.08	.04, .10	.90	.06	326.87	2.04	4	.41**(.01)	-.11**(.10)
	Best-fitted	.08	.00, .06	.91	.03	326.24	1.96	3	.44**(.01)	-.15**(.01)
Positivity Online	Linear	.11	.06, .17	.01	.10	1709.99	19.33**	5	4.26**(.07)	.27**(.04)
	Quadratic	.11	.06, .17	.09	.20	1711.70	15.60**	4	4.19**(.08)	.71**(.13)
	Best-fitted	**.04**	**.00, .04**	**.93**	**.05**	**1705.62**	**4.07**	**3**	**4.35**(.06)**	**.20**(.10)**
Frequency Online	Linear	.19	.15, .25	.00	.11	3160.81	50.47**	5	3.83**(.07)	1.33**(.04)
	Quadratic	**.02**	**.01, .03**	**.97**	**.06**	**3151.24**	**18.95****	**4**	**3.94**(.08)**	**-.30**(.04)**
	Best-fitted	.14	.08. .21	.96	.09	3183.43	19.11**	3	3.04**(.07)	1.03**(.09)
Intimacy Online	Linear	.13	.08, .18	.24	.08	2773.54	24.20**	5	4.68**(.05)	1.32**(.03)
	Quadratic	.17	.16, .27	.00	.17	3230.68	47.86**	4	4.23**(.24)	-.12**(.07)
	Best-fitted	**.00**	**.02, .06**	**.95**	**.04**	**2769.46**	**9.15***	**3**	**4.84**(.06)**	**1.23**(.09)**

Note. The models in bold indicate the best-fit models. RMSEA = root mean square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root mean square residual; BIC = Bayesian Information Criterion; df = degrees of freedom. β = standardized estimate; SE = standard error. $^{*}p < .05$. $^{**}p < .01$

Table 3b.

Baseline Models for College Adjustment: Fit Indices and Estimates.

	Goodness of Fit							Estimates	
	Model	RMSEA	CI	CFI	SRMR	BIC	χ^2	df	Intercept β (SE)	Slope (SE)
College Adjustment	Linear	.20	.15, .25	.72	.11	1626.02	52.33**	5	8.33**(.04)	-.92** (.02)
	Quadratic	**.05**	**.05, .06**	**.94**	**.08**	**1611.86**	**46.25****	**4**	**8.51**(.04)**	**-1.62**(.05)**
	Best-fitted	.17	.12, .23	.83	.10	1625.43	62.68**	3	7.92 (.04)	-1.09** (.03)

Note. The models in bold indicate the best-fit models. RMSEA = root mean square error of approximation; CI = confidence interval; CFI = comparative fit index; SRMR = standardized root mean square residual; BIC = Bayesian Information Criterion; df = degrees of freedom. β = standardized estimate; SE = standard error.
*$p < .05$. **$p < .01$

Parallel Growth Models

Table 4. shows the parameter estimates and fit indices for parallel growth models of each aspect of emotional disclosure offline and online and college adjustment. Because residential status and college generation play a role in college adjustment (Credé & Niehorster, 2012), they were included as covariates in the model. Evidence suggests that gender differs in their emotional disclosure offline and online (Nguyen et al., 2012), and in addition, social network size, the frequency of Facebook use, and the total number of Facebook posts are important predictors of emotional disclosure online (e.g., Lin et al., 2014). Thus, these variables were included as covariates. As there are no prior studies that have examined the different features of emotional disclosure offline and online with college adjustment, the links between their growth factors were explored in this study (RQ3). Overall, the parallel growth model demonstrated acceptable fit, as evidenced by the various fit indices for frequency of emotional disclosure offline and online with college adjustment: χ^2 (18, N = 241) = 94.13, $p < .001$; RMSEA = .08; SRMR = .07; CFI = .92; for intimacy of emotional disclosure offline and online with college adjustment: χ^2 (22, N = 241) = 103.32, $p < .001$; RMSEA = .07; SRMR = .07; CFI = .91; for positivity of emotional disclosure offline and online with college adjustment: χ^2 (22, N = 241) = 99.77, $p < .001$; RMSEA = .07; SRMR = .06; CFI = .94; for negativity of emotional disclosure offline and online with college adjustment: χ^2 (20, N = 241) = 116.74, $p < .001$; RMSEA = .08; SRMR = .06; CFI = .93. The growth factors of emotional disclosure offline indicate significant relationships with those of emotional disclosure online for the frequency, negativity and positivity indicators. In addition, the growth factors of different facets of emotional disclosure offline and online revealed differential linkages with those of college adjustment.

Frequency of emotional disclosure. The initial level of frequency of emotional

disclosure offline and online were positively associated, which suggested that the greater frequency of emotional sharing offline with parents corresponded with higher frequency of emotional disclosure on Facebook. Similarly, the rate of change in frequency of emotional disclosure offline and online were positivity related. In other words, the greater the rate of increase in freshmen's frequency of emotional disclosure offline with parents in the first three months and decrease in the last month, the higher the rate of quadratic increase in frequency of emotional disclosure on Facebook. A negative relation was found between the initial level of frequency of emotional disclosure offline and the rate of change in frequency of emotional disclosure online. This finding suggests that the higher the initial level of frequency of emotional disclosure offline with parents, the lower that rate of quadratic increase in frequency of emotional disclosure on Facebook. A similar negative relation was found for the initial level of frequency of emotional disclosure online and the rate of change in frequency of emotional disclosure offline. This result revealed that the higher the initial level of frequency of emotional disclosure on Facebook, the lower the rate of increase in the frequency of emotional disclosure offline with parents in the first three months and the lower the rate of decrease in the last month.

The initial level and rate of change in frequency of emotional disclosure offline were positively associated with those of college adjustment, respectively, whereas both the initial level and rate of change in emotional disclosure online were positively and negatively associated with the rate of change in college adjustment, respectively. Freshmen who had higher frequency of initial disclosure offline with parents had greater initial level of college adjustment, and those with higher frequency of initial disclosure on Facebook had higher rate of decline in college adjustment over the semester. Individuals with higher rate of increase in frequency of emotional disclosure with parents experienced greater rate of decline in college adjustment, but their higher

rate of increase in frequency of emotional disclosure on Facebook corresponds with a lower rate of decline in college adjustment through the first semester. The initial level of college adjustment was negatively associated with emotional disclosure offline with parents among Freshmen; individuals who had greater adjustment at the start of the semester also experienced lower rate of increase in emotional sharing with their parents over the transitional first semester.

Intimacy of emotional disclosure. With respect to the intimacy facet of emotional disclosure, the initial levels of intimacy in emotional disclosure offline and college adjustment were positively associated, and in contrast, the initial levels of intimacy in emotional disclosure online and college adjustment were negatively associated. Students with higher intimacy in emotional disclosure with their parents had greater college adjustment at the start of the semester, and those with higher intimacy in emotional disclosure on Facebook had lower college adjustment at the transitional first semester.

Negativity and positivity in emotional disclosure. The initial level of negativity in emotional disclosure offline was positively associated with the rate of change in negativity in emotional disclosure online. Freshmen with higher negative emotions in their sharing with parents offline had higher rate of linear decrease in their emotional sharing on Facebook over the first semester. On the contrary, their higher initial level of positivity in emotional sharing online was negatively associated with the rate of positivity in emotional disclosure offline; students with higher initial level of positive emotional sharing on Facebook had lower rate of decrease in parental emotional sharing offline in the first three months, and lower rate of increase in the last month of first transitional semester.

Positive online emotional disclosure factored more in college adjustment, and conversely, negative offline emotional disclosure had more linkages with college adjustment. The initial

level of positive emotional disclosure online had positive and negative relations with college adjustment, respectively, and the rate of change in positive emotional disclosure online and college adjustment were negatively related. Freshmen with greater positive emotional disclosure on Facebook had greater initial level of and lower rate of decline in college adjustment. Those with greater rate of decrease in positive emotional disclosure on Facebook from the first to second month and greater rate of increase in subsequent months had lower rate of decline in college adjustment. In contrast, positive emotional disclosure offline had only one significant link with college adjustment, as evidenced by the negative association between the initial level of positive emotional disclosure offline and the rate of change in college transition. The higher positive emotional disclosure offline with parents at the start of the semester among freshmen was in sync with their lower rate of decline in college adjustment through the first semester.

The initial level of negative emotional disclosure offline had positive and negative relations with the initial level and rate of change in college adjustment, respectively. The rate of change in negative emotional disclosure offline and college adjustment was positively associated. Furthermore, the initial level of college adjustment and rate of change in negative emotional disclosure offline was negatively associated. This set of findings revealed that students who had higher initial negative emotional disclosure offline with their parents experienced greater initial college adjustment, and lower rate of decline in adjustment over the first semester. Those with greater rate of decrease in negative emotional disclosure offline with parents had greater rate of decline in college adjustment through the first semester, and individuals with higher initial adjustment to college had lover rate of quadratic decline in emotional disclosure offline with parents. In a similar vein, the initial level of and the rate of change in negative emotional disclosure online had negative and positive relations with the rate of change in college

adjustment, respectively. Individuals with higher initial level of negative emotional disclosure on Facebook had lower rate of decline in college adjustment over the first semester, and their higher rate of decline in negative emotional disclosure on Facebook parallels their higher decline in college adjustment through first semester.

Taken together, the frequency dimension of emotional disclosure for both offline with parents and online, specifically on Facebook, were important to college adjustment among Singaporean freshmen, as evidenced by several significant linkages. In contrast, the intimacy dimension of emotional disclosure factored less in individuals' adjustment to college, only immediately at the start of college, as instantiated by two significant associations involving the initial levels of emotional disclosure offline and online with the initial level of college adjustment. The positivity and negativity aspects of emotional disclosure and their relations to college adjustment differ across the offline and online contexts. Positive emotional disclosure online had more significant associations with college adjustment, both immediately and prospectively, but not for positive emotional disclosure offline. On the contrary, negative emotional disclosure offline factored more in the initial stage, as well as through the transitional first semester.

Table 4.

Parameter estimates and fit indices for the parallel growth model of the relationships between different features of Emotional Disclosure and College Adjustment.

	Estimates			
	Standardized Coefficient (Standard Error)			
Model Intercepts & Slopes	Frequency	Intimacy	Positivity	Negativity
Emotional Disclosure Offline Intercept	3.15**(.10)	3.38**(.10)	4.70**(.06)	2.48**(.07)
Emotional Disclosure Offline Slope	-.48**(.08)	.38**(.06)	-1.00**(.05)	-1.29**(.05)
Emotional Disclosure Online Intercept	3.42**(.09)	4.84**(.06)	4.20**(.05)	.44**(.01)
Emotional Disclosure Online Slope	-.50**(.15)	1.20**(.03)	.23**(.05)	-.11**(.01)

College Adjustment Intercept	8.18**(.04)	8.28**(.04)	8.29**(.04)	8.26**(.04)
College Adjustment Slope	-1.51**(.05)	-1.54**(.05)	-1.55**(.05)	-1.51**(.05)
Growth Factor Associations				
Emotion Disclosure				
Offline Intercept $\longleftrightarrow$ Offline Slope	-.14(.15)	-.13(.21)	.05(.03)	-.42**(.02)
Online Intercept $\longleftrightarrow$ Online Slope	.70**(.10)	.04(.04)	-.08(.00)	-.35**(.00)
Offline Intercept $\longleftrightarrow$ Online Intercept	.27**(.11)	-.06(.09)	.14(.03)	.01(.02)
Offline Slope $\longleftrightarrow$ Online Slope	.58**(.10)	-.19(.03)	.08(.00)	.03(.00)
Offline Intercept $\longleftrightarrow$ Online Slope	-.50**(.20)	.14(.04)	-.05(.00)	.40**(.01)
Online Intercept $\longleftrightarrow$ Offline Slope	-.24**(.06)	.13(.05)	-.55**(.01)	-.01(.00)
College Adjustment				
Intercept $\longleftrightarrow$ Slope	-.56**(.01)	-.55**(.01)	-.55**(.01)	-.55**(.01)
Emotional Disclosure & College Adjustment				
Offline Intercept $\longleftrightarrow$ College Adjustment Intercept	.56**(.05)	.20*(.06)	.00(.04)	.22*(.04)
Offline Slope $\longleftrightarrow$ College Adjustment Slope	.60**(.05)	.15(.05)	-.04(.02)	.34**(.03)
Offline Intercept $\longleftrightarrow$ College Adjustment Slope	-.14(.07)	-.05(.07)	-.28**(.05)	-.43**(.06)
Offline Slope $\longleftrightarrow$ College Adjustment Intercept	-.24**(.24)	.08(.03)	-.04(.02)	-.28**(.03)
Online Intercept $\longleftrightarrow$College Adjustment Intercept	.03(.05)	-.74**(.03)	.38**(.01)	-.08(.00)
Online Slope $\longleftrightarrow$College Adjustment Slope	-.25**(.10)	.07(.02)	-.26**(.00)	.47**(.00)
Online Intercept $\longleftrightarrow$College Adjustment Slope	-.42**(.06)	.08(.04)	-.23**(.02)	-.40**(.01)
Online Slope $\longleftrightarrow$College Adjustment Intercept	-.09(.08)	.17(.02)	-.05(.00)	.03(.00)
Regression on Covariates				
Emotional Disclosure Offline Intercept				
Gender	.15(.07)	.19(.03)	.14(.11)	.11(.14)
Emotional Disclosure Offline Slope				
Gender	.16(.05)	.16(.09)	.18(.10)	.-19(.15)
Emotional Disclosure Online Intercept				

Gender	.11(.03)	.12(.16)	-.11(.10)	.17(.08)
Social network size	.16(.12)	.09(.05)	.19(.15)	-.12(.03)
Frquency of use	.04(.05)	.06(.12)	.11(.10)	-.10(.03)
Number of posts	.12(.19)	.05(.01)	.18(.12)	.05(.07)
Emotional Disclosure Online Slope				
Gender	-.19(.03)	-.11(.09)	-.15(.11)	-.19(.04)
Social network size	.14(.02)	.04(.17)	.17(.05)	-.16(.13)
Frquency of use	.17(.08)	.07(.10)	.10(.03)	-.05(.09)
Number of posts	.17(.12)	.05(.16)	.12(.04)	-.09(.07)

	Estimates Standardized Coefficient (Standard Error)
College Adjustment Intercept	
Residential status	-.13(.10)
College generation	.12(.07)
College Adjustment Slope	
Residential status	-.15(.04)
College generation	-.18(.03)

Note. $^{*}p < .05$. $^{**}p < .01$

Discussion

The transition to college presents late adolescents with a multitude of academic and social changes, which can be demanding and create a significant challenge to their mental and emotional well-being (Conley et al., 2014). Understanding whether and how individuals in this situation communicate their emotional experiences to solicit support from and make connections with others and determining the impact of such communication on their adjustment have important practical implications. Findings can guide the derivation of prevention and intervention strategies aimed at easing students' transition to college, supporting their psychological well-being, and increasing college retention rates. Because the use of social media, especially Facebook, is deeply intertwined in college students' lives, emotional sharing extends from traditional face-to-face interactions offline to interactions online (Bazarova, 2015; Nguyen et al., 2012).

Framed within the social sharing of emotions framework, this study examined the longitudinal course of the different facets of emotional sharing offline and online in tandem with college adjustment among a group of Singaporean freshmen. Using an extensive longitudinal diary entry design, the study examined the conceptualization of students' emotional disclosure offline and online and documented how the patterns of change in the four facets of these two emotional processes relate to changes in college adjustment across the transitional first semester. Emotional disclosure offline with parents and online on Facebook had revealed important differences in four features, specifically frequency and intimacy of sharing, and intensity of positive and negative emotions. Students reported different initial levels and trajectories for the four facets of emotional disclosure offline and online; they also reported experiencing a decrease in college adjustment over the first semester of college. Generally, there were important nuances

in the pattern of associations for the four facets of emotional disclosure offline and online with college adjustment, the complexity and the implications of which are discussed below.

The Conceptualization of Emotional Disclosure Offline and Online

The current study attempted to clarify the conceptualization of emotional disclosure offline and online, specifically with parents and on Facebook, respectively. The mixed and limited findings regarding these two disclosure processes in past research stemmed from the inconsistency in how studies defined these processes along the features of frequency, intimacy, intensity of positive and negative emotions (Kim & Dindia, 2011; Nguyen et al., 2012). Findings from the present study confirm a few key differences between emotional disclosure offline and online. Emotional disclosure offline with parents was greater in intimacy, positivity and negativity, and in contrast, emotional disclosure on Facebook was greater in frequency.

Considering the social and cultural conditions surrounding college in the Singapore cultural context, with parents in proximity and interactions with them remain prevalent (Tan, 2012), and the central role of parental figures in providing support to their children's tertiary education, which is inherent in the Confucianist social practices in education, this explains the high intimacy in freshmen's emotional disclosure with their parents. These social and cultural conditions are further compounded by the cultural embeddedness of adolescents' autonomy development that is contingent on the co-occurrence of relatedness development that entails high degree of connection with others, especially with one's parents (Kagitcibasi, 2017). This continued significance of parents is heightened with the emphasis on the family as the cornerstone of the Singapore society (Tan, 2012). In addition, offline disclosure with parents is a closed mostly dyadic interaction system that minimizes personal vulnerability, and facilitates the sharing of intimate positive and negative experiences (Nguyen et al., 2012). Thus, Singaporean

freshmen are likely to share the excitement associated with the transitional first semester, coupled with the demands and challenges of the collegiate environment (Michikyan et al., 2015), in soliciting help from and staying connected with parents. Furthermore, most participants in this study are non-residential college students, whose parental communication about college adjustment serves important supportive function (Gefen et al., 2013). Results from the correlation of the different dimensions of emotional disclosure offline with parents and college adjustment underscore the importance of negativity in emotional sharing, which is further supported by the findings on the parallel growth of emotional disclosure offline and college adjustment.

The greater frequency, but not positive emotionality, in college freshmen's emotional disclosure on Facebook is consistent with previous findings established with college students across cultural contexts, including Singapore (e.g., Bazarova & Choi, 2014; Lin et al., 2014; Zhang, 2017). In view of the social media use landscape in Singapore, where adolescents and young adults are increasingly turning to social networking sites as channels of communication with family and peers (Infocomm Media Development Authority Singapore, 2015), Singaporean college and university students' use of Facebook for emotional disclosure has gained prominence in recent years (Hew & Cheung, 2012; Lin et al., 2014; Qiu et al., 2012). Emotional disclosure on Facebook wall posts are relatively public domains with high visibility and social propagation of emotions with a greater social network that includes both parents and peers for most participants in the current study. These characteristics of Facebook wall posts facilitate frequent emotional sharing (Bazarova & Choi, 2014), which serves important functions during college transition for freshmen's building and maintaining of social relationships, seeking of social validation, and soliciting of social and emotional support (e.g., Yang & Brown, 2013; 2015;

Zhang, 2017).

While there is cultural generality in frequent emotional disclosure on Facebook among freshmen, the intensity of emotionality in Facebook posts is influenced by cultural norms regarding emotional expression, especially in relatively public domains like Facebook wall posts (Yum & Hara, 2005; Zhang, 2017). Culture regulates the way people communicate by defining what is appropriate and what is not, and an important dimension that influences the valency and intensity of emotional experiences individuals disclosed online is the independence-interdependence orientation (Kim & Dindia, 2011). College freshmen from more independent-oriented Western societies, such as the U.S. and United Kingdom, revealed more positive than negative emotional experiences (Michikyan et al., 2015; Selwyn, 2009), which offered a portrait of a happy and well-adjusted life, and contributed to their positive college adjustment and psychological well-being (Yang & Brown, 2016). On the contrary, freshmen from globalized Asian societies that emphasized a more balanced sense of independent-interdependent, such as Hong Kong, were found to disclose both positive and negative experiences on Facebook, which served as a buffer against stress and increased their psychological well-being (Zhang, 2017).

With current research on Facebook use focused mainly on Western cultural contexts, relatively little is known about Facebook use in Singapore. Findings from the current study lend credence to the importance of Facebook for emotional disclosure among college students, including freshmen, in the Singapore context, which is congruent with that documented previously in Western cultural contexts (Bazarova & Choi, 2014; Bazarova et al., 2017). Specifically, results from the correlation of different facets of emotional disclosure on Facebook and college adjustment revealed how, in particular, positivity is significantly associated with college adjustment. The importance of positive emotional disclosure online is further instantiated

by its parallel growth with college adjustment. These findings support and extend the use of the social sharing of emotions framework in understanding emotional disclosure offline with parents to that online, such as on Facebook, and speak to the importance of cultural considerations in understanding the differences in the relative importance of the four facets of emotional disclosure offline and online.

Developmental Patterns in Emotional Disclosure and College Adjustment

Existing research on emotional disclosure and college adjustment over time tend to rely either on cross-sectional data or on limited longitudinal designs that lack multiple assessments in the first semester, and rarely consider the role of culture in understanding the mechanism (e.g., Kahn et al., 2017; Tao et al., 2000; Wei et al., 2005). The current research improved on these designs by using multiple assessment points in the first semester, and LGM to chart developmental trajectories of these processes in parallel over time. More importantly, by applying a cultural perspective, this study emphasized the consideration that emotional experiences and responses to them occur within a cultural context, which may shape individuals' potential exposure to, interpretations of, and responses to emotional events, as well as their decisions about disclosure. This provides a frame for comparison of current findings to those established with freshmen from other cultural contexts, especially in understanding the patterns of associations in the parallel growth of emotional disclosure with college adjustment, which forms a plausible model for future investigations to follow.

With this advanced methodology, the present research demonstrated that across the transitional first semester of college, the frequency, intimacy, negativity and positivity in freshmen's emotional disclosure offline with parents and on Facebook had nuanced trajectories. Broadly speaking, freshmen's frequency of emotional disclosure offline with parents and on

Facebook increased over the first three months and decreased in the remaining month in the transitional first semester, and their intimacy in emotional disclosure offline and online increased over the first semester. Their negativity in emotional disclosure offline and online decreased quadratically and linearly over the first semester, respectively. Freshmen's positivity in emotional disclosure offline decreased in the first three months and increased in the last month, and conversely for their positivity in emotional disclosure online, it decreased in the first month and increased thereafter in the remaining months of the transitional first semester. Previous research examining similar processes longitudinally, such as communication with parents and peers, hinted at possible developmental change within the context of college transition (Rogers et al., 2018; Wei et al., 2005). Such developmental notion has not been applied to understand emotional disclosure offline and online in general and the growth of the different facets in specific. Findings from the current study contribute to our understanding of these processes having distinct features, as well as developmental trajectories, and provide a more comprehensive understanding of how each facet of emotional disclosure progresses across the transitional period, and how, over this time period, their associations with college adjustment.

The quadratic decline in college adjustment over the first semester found in the present study fits well into what is known about adjustment difficulties in the first transitional semester at college that have been well-established in cross-sectional studies (Azmitia et al., 2013; Jiang et al., 2017). The limited longitudinal evidence suggests that college adjustment follows a quadratic trajectory from pre-transitional stage to the end of first year at college, declining especially in the first semester (Conley et al., 2014). These findings further reinforced the notion that the first year—and particularly the first few months—of this key developmental juncture is a pivotal time of change and struggle for many late adolescents. Although college transition does indeed mark a

time of increased exploration and new experiences, the need to adjust to the collegiate social and academic demands, and the flux in social support systems may overwhelm individuals (Conley et al., 2014; Credé & Niehorster, 2011). However, results from this study also underscored how individuals who were better adjusted at the initial stage of transition experienced lower rate of decline in adjustment. Evidence from the current research and elsewhere suggests that this difficulty is most acutely experienced early in the transition, and initial positive adjustment serves as a buffer (e.g., Kahn et al., 2017; Lee et al., 2014).

The current research improves our understanding of the broad longitudinal picture of adjustment through the first transitional semester at college in parallel with how individuals engage in emotional sharing offline with their parents and on Facebook to solicit social and emotional support. Social sharing offline and online are likely distinct support systems, as their normative developments are differentially related to that of college adjustment. In addition, findings on the different facets of emotional sharing underscored the relative importance of some more than the other facets in their links to college adjustment. Freshmen's intimacy in emotional disclosure offline and online are important in the first month of college transition, in that individuals with higher intimacy in emotional disclosure with parents and on Facebook had higher college adjustment at the start of the semester. Intimacy in emotional sharing, however, did not feature in the relation to freshmen's adjustment to college prospectively. In contrast, the frequency in emotional sharing offline and online has initial and continued significance to college adjustment through the first semester. The higher frequency of emotional sharing offline with parents at the start of the semester is related to higher initial college adjustment. This contrasted with higher emotional sharing online, specifically on Facebook, in the first transitional month that is associated with lower rate of decrease in adjustment. Furthermore, the association

between the change in frequency of emotional sharing and college adjustment is stronger for that offline than online. Considering the integral role of parents in the developmental transitions, and especially in the tertiary education, of their children in the Singapore cultural context (Tan, 2012), the frequent emotional communications with parents is a stable source of support for individuals in their positive adjustment during the early phase of transitioning, as well as later adjustment in college (Gefen & Fish, 2013; Kahn et al., 2017).

Freshmen's positive and negative emotional disclosure offline and online had different dynamics with college adjustment. Positive emotional disclosure on Facebook, but not emotional sharing with parents offline, featured prominently in the relation to college adjustment both at the start and through the first semester. On the other hand, negative emotional disclosure offline with parents more than that on Facebook had initial and sustained importance in their links to college adjustment. Students with higher positive emotional disclosure on Facebook reported greater initial adjustment to college and lower rate of decline in adjustment, and the greater the rate of increase in positive sharing on Facebook, the lower the rate of decline in college adjustment. The same mechanism is observed for freshmen's negative emotional disclosure offline with parents.

Because most participants had their parents on Facebook in this study, the difference in interpersonal context offline and online is an extension from parents to the peer social network in the latter context. This implies that the social propagation of positive emotions at the collective level online that extends to one's peer network serves an important and unique function during college transition, both initially and through the first semester. Positive online emotional communication with peers at this developmental transition seems to have long lasting buffering effect. At the start of the semester, maintaining social connections and communicating with peers

online may be instrumental in individuals' efforts at navigating the transition to college (Yang & Brown, 2015), which attenuates the decrease in college adjustment over the first semester. Through the semester, positive emotional communication online with one's peer network continues to be integral in the adjustment to college. These findings conform to the notion that freshmen disclosure of positive experiences on Facebook that presents a portrait of happy and well-adjusted life and in attaining social validation from peers is an important source contributing to their college adjustment (Yang & Brown, 2013; 2016; Zhang, 2017). However, parents remained a relevant and nontrivial source of support in helping freshmen manage negative experiences both at the start and through the transitional first semester. These findings reinforce the notion of autonomy-relatedness development that Singaporean adolescents are socialized to develop (Kagitcibasi, 2017), which entails a continued significance of parents as peers gained prominence during this developmental stage of college transitioning.

Limitations and Conclusions

Although this study provides valuable insights into the challenging nature of college transition, it is limited in the conclusions about the change patterns in emotional disclosure offline with parents and online, specifically with Facebook posts that include status updates, wall posts, pictures, location check-in, and tags, and parallel growth with college adjustment. In evaluating the associations among the parallel growth processes, results did not distinguish the type of institution because of the limited sample size. Because the social and cultural conditions surrounding college transition and adolescents' development of autonomy-relatedness underscore the significance of parents in the Singapore cultural context, this study examined emotional disclosure offline with parents and could not include other closed individuals, such as siblings, high school and college peers, who may be important targets that future research can

investigate. Likewise, for emotional disclosure online, the study focused on one specific platform because of the prevalence and relevance of Facebook use among Singaporean college freshmen. Future research may consider other social media platforms, which involve different behaviors, targets, motivations, and relationships to outcomes, freshmen used for emotional sharing to solicit support during college transition. Lastly, there are important distinctions between offline and online emotional disclosure that transcend beyond differences in context. Each is communicating to an effectively different audience; adolescents may decide to discuss different events in each context. Future studies can consider important predictors, such as type of audience, motivations and emotional experiences, in evaluating the levels of disclosure, patterns of change in disclosure and the associations of the growth parameters of emotional disclosure offline and online with college adjustment.

Notwithstanding these limitations, findings from this study have important implications. College transition can be challenging for many first-year students, with the typical, incoming student experiences a gradual, but substantial decline in college adjustment during his or her first semester of college. The four facets of emotional sharing offline and online relate differentially to college adjustment, immediately and prospectively. Prevention programs can prepare incoming students with information about the warning signs of adjustment difficulties. Parents and friends can be instructed as to the timing and features of emotional communications offline and online that are supportive, both at the start and to intervene through the first semester, as students experience the challenges of transitioning to college.

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Appendix

Table A.

Questions Used to Assess Emotional Disclosure Offline

Significant emotional experience refers to a personal event or issue that elicits emotions of mild to strong intensity (e.g., receiving a good grade on an exam elicits positive emotions; involving in a car accident elicits negative emotions).
a. Describe 2 significant emotional experiences you shared with your mother/father recently by referring to: a. What the event was about b. When it happened c. Where it happened d. Individuals involved e. What you were feeling and thinking f. What you said, if anything g. How you said it h. What they did i. How they acted j. Describe all the emotions you felt
b. To what extent do you share similar experience with your mother/father in the past 1 month: For emotional episode 1: 1 (not often)---2---3--- 4---5 (very often) For emotional episode 2: 1 (not often)---2---3--- 4---5 (very often)
c. How personal/private is this emotional experience: For emotional episode 1: 0 (not at all)---1---2--- 3---4 (very much) For emotional episode 2: 0 (not at all)---1---2--- 3---4 (very much)
d. To what extent do you feel positive emotions: For emotional episode 1: 0 (not at all)---1---2--- 3---4 (very strongly) For emotional episode 2: 0 (not at all)---1---2--- 3---4 (very strongly) e. To what extent do you feel negative emotions: For emotional episode 1: 0 (not at all)---1---2--- 3---4 (very strongly) For emotional episode 2: 0 (not at all)---1---2--- 3---4 (very strongly) f. To what extent do you feel the following emotions: (this was assessed separately for emotional episodes 1 and 2, and these specific positive and negative emotions were randomized) 0 (*not at all*)---1---2---3---4 (*very strongly*) **a. happy**

b. friendly
c. tense
d. interested
e. distressed
f. excited
g. upset
h. strong
i. guilty
j. scared
k. hostile
l. enthusiastic
m. proud
n. irritable
o. alert
p. ashamed
q. inspired
r. nervous
s. determined
t. attentive
u. jittery
v. active
w. afraid

Note. Emotions in bold refer to positive emotions

Table B.

Coding Scheme with Samples of Participants' Emotional Disclosure Posts Extracted from their Facebook (FB).

Step 1: Identify and record relevant responses using participants' FB posts Two coders (i.e., undergraduate research assistants) were provided with examples of emotional FB posts from previous studies (e.g., Michikyan et al., 2015) that comprise: a. Status updates b. Wall posts c. Pictures d. Locations check-in e. Tags	**Definition of significant emotional experience:** It refers to a personal event or issue that elicits emotions of mild to strong intensity. **Status updates** "aaahaaa. . .done with studying!!! Woohoo!!" **Wall posts** "MIDTERMS HERE WE COME!! :(. . ." **Pictures**   **Locations check-in** "Library. . . with (name of the friend) :). . ." **Tags** ''studying with bf ... finals time = crunch time Argh!"
Step 2: Discuss and critique the set of indicators for coding FB posts on emotional experiences	Definitions of the four indicators of emotional disclosure online: a. Frequency—how frequently an emotional post was posted b. Intimacy—how personal or private each post is (not at all) 0---1---2---3---4 (very much) c. Intensity of positive emotion i. The degree of positive emotion (to check the general valence of each emotional experience) ii. The degree of specific positive emotions adapted from the PANAS (Watson et al., 1988) d. Intensity of negative emotion i. The degree of negative emotion (to check the general valence of each emotional experience) ii. The degree of specific negative emotions adapted from the PANAS (Watson et al., 1988)

	Rate the extent to which the individual in the post feels the following using 5-point scales: 0 (not at all) 0---1---2---3---4 (very strongly) **a. positive emotion** b. negative emotion **c. happy** **d. friendly** e. tense **f. interested** g. distressed **h. excited** i. upset **j. strong** k. guilty l. scared m. hostile **n. enthusiastic** **o. proud** p. irritable **q. alert** r. ashamed **s. inspired** t. nervous **u. determined** **v. attentive** w. jittery **x. active** y. afraid *Note. Emotions in bold refer to positive emotions and the rest are negative emotions*
Step 3: Apply the coding scheme to a sample of responses (approximately 20%) and refine it based on this initial coding	Samples from participants' emotional FB posts that were extracted (N = 4342; total number of extracted posts = 10604): **Status updates** 

	Wall posts  Today officially marks the last day of my second internship stint at Singapore Exchange. Over the last five months, I had the opportunity to work with two great bosses (Lynn and Michelle) and an amazingly supportive team. They have never lost faith in me, despite my shortcomings and inexperience. I can never thank them for the trust, as well as the new opportunities that they have given me over the last few months. I also got to meet two awesome batches of interns. Couldn't ask for more, to be honest. Always loved the conversations during lunches and coffee breaks, as well as the after office-hours gatherings for alcohol or karaoke. TI;Dr: I am really thankful and blessed for this experience. I am truly going to miss all of you :`) **Pictures**  Automotive heaven!!! **Locations check-in**  is at Temasek Hall. HAHAHAHA and so the Angel and Mortal thingy kicks off! Thank you, whoever you are 😊 And in other words... I need to up my game liao!! **Tags**  is with and Yay for Sundays!
Step 4: Re-evaluated the dimensions in the coding scheme to ensure mutual exclusiveness and exhaustiveness	The following positive and negative emotions were added to the coding scheme: 1. Anticipation 2. Humor 3. Gratitude 4. Inspired 5. Melancholic 6. Nostalgic 7. Frustration
Step 5: Pre-tested the coding scheme with different coders (Two other undergraduate research volunteers)	Definitions of the four indicators of emotional disclosure online a. Frequency—how frequently an emotional post was posted b. Intimacy—how personal or intimate the sharing was

	c. Intensity of positive emotion i. The degree of positive emotion (to check the general valence of each emotional experience) ii. The degree of specific positive emotions adapted from the PANAS (Watson et al., 1988), and four other positive emotions (i.e., anticipation, humor, gratitude, and inspired) d. Intensity of negative emotion i. The degree of negative emotion (to check the general valence of each emotional experience) ii. The degree of specific negative emotions adapted from the PANAS (Watson et al., 1988), and three other negative emotions (i.e., melancholic, nostalgic, and frustration)
Step 6: Finalized the coding scheme with the agreement of the coders.	After discussion with the two undergraduate research volunteers, the above coding scheme was finalized. 20% of all FB posts were double coded to ensure continued reliability. Then, two undergraduate research assistants applied the coding scheme to the remaining FB posts.