

BRIEF REPORT



# Longitudinal Relations Between Identity Development and Psychological Adjustment Among South Korean Young Adults During the COVID-19 Pandemic

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## ABSTRACT


Identity development can be both a resource for and an outcome of psychological adjustment during young adulthood. In particular, South Korean youth generally face strong academic competition and, in 2020, experienced extreme social distancing policies, both of which may have had implications for their identity development and adjustment. To understand how these contexts influenced South Korean young adults, we investigated whether a mutual relation between identity development and adjustment could be found among them in 2020. Ninety-nine participants were surveyed at three time points in 2020, measuring dimensions of identity development processes and indicators of psychological adjustment (psychological well-being and depressive symptoms). Cross-lagged panel models showed that pre-pandemic psychological well-being significantly predicted stronger identity commitments and adaptive exploration, and depressive symptoms predicted the reverse. After the onset of the pandemic, psychological well-being predicted identity commitments but not exploration. In the reverse direction of relations, engaging in more mature identity development processes particularly contributed to lower depressive symptoms after the pandemic onset. The findings indicate that South Korean youth may be experiencing delayed development of identity commitments and that, in uncertain times, developed identity may have become a source of adjustment.

## KEYWORDS

Identity development; psychological adjustment; young adulthood; South Korea; COVID-19

Developing a sense of identity is a crucial yet difficult task for young adults in transition to the freedom and responsibility of adulthood (Erikson, 1968). As such, young adults' identity development may be both a resource and outcome of psychological adjustment (De Lise et al., 2024). The current study examined the relation between identity development and psychological adjustment among South Korean young adults in early 2020. We paid attention to this context for several reasons. First, because the modern study of identity has been dominated by Western views and experiences (Medin et al., 2017), studies conducted in under-researched Eastern countries, such as South Korea, are crucial to diversifying the field. Second, South Korean youth are situated in a highly competitive culture which puts their positive development at risk (Rudolf & Lee, 2023). Understanding identity development as a key factor for positive psychosocial development can be instrumental in enhancing their adjustment. Lastly, to understand the current psychosocial circumstances of young people, the impact of the COVID-19 pandemic in 2020 is pivotal to consider. In the following sections, we provide a review of the theoretical model we used to conceptualize identity development, research on the interrelations

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between the identity development process and psychological adjustment, and points of consideration for the specific context of South Korean young adults in early 2020.

## Dimensions of identity development

To examine the relations between identity development and adjustment, a clear conceptualization of what processes are involved in identity development is needed. Erikson (1968) defined identity development as the formation of a clear sense of self encompassing personal experiences, desires, and social roles that create a feeling of continuity and sameness across contexts and time. Marcia's identity status paradigm (Marcia, 1966) was the first operationalization of Erikson's rather complicated definition of identity. Marcia posited the concepts of exploration and commitment as the two key processes involved in identity development. Contemporary process-oriented models expanded on Marcia's two-dimensional paradigm to better capture how individuals form, change, and strengthen their identities over time.

In our study, we used Luyckx et al. (2008) dual-cycle model, which has been validated and used with South Korean young adults (Y. Park et al., 2023). The model proposes five process dimensions that delineate the cyclical process of forming and evaluating identity commitments. The formation cycle consists of exploration in breadth (EB) which refers to the search for various possible identity alternatives to which one may commit, and commitment making (CM) which is the formation of initial commitments as a result of EB. The evaluation cycle consists of exploration in depth (ED) which is the process of evaluating the fit of the chosen commitment through searching pertinent information, and identification with commitment (IC) which is feeling certainty about the commitment after ED. Ruminative exploration (RE) is the fifth dimension that refers to the state of being stuck in the exploration process and not proceeding to make and strengthen commitments, reflecting the maladaptive aspect of prolonged identity exploration.

## Identity development and psychological adjustment

In young adulthood, having a clear sense of self is essential for navigating life with certainty and can be a contributor to psychological adjustment (Branje, 2022). The question of identity is not easy to answer, however, and requires psychological resources to face the stress of resolving conflicts between multiple self-images across different contexts (De Lise et al., 2024). Theoretically, the five dimensions of identity development may each be mutually associated with psychological adjustment (Erikson, 1968; Luyckx et al., 2008). Having strong identity commitments can provide a sense of certainty in navigating life choices. As such, CM and IC may lead to better adjustment in young adulthood. As EB and ED are adaptive exploration dimensions, higher engagement can lead to young adults' better understanding of themselves and their surroundings, also contributing to better adjustment. RE, on the other hand, can obstruct having such certainty about life choices and may lead to worse adjustment. In reverse, functioning well as an individual without experiencing depressive symptoms may be a helpful state that prompts adaptive processes of identity formation and evaluation (i.e., EB, CM, ED, IC).

In South Korea, these potential relations have been examined only in a cross-sectional study with young adults, where psychological adjustment was positively correlated with EB, ED, CM, and IC while it was negatively correlated with RE (S. W. Park & Moon, 2022; Y. Park et al., 2023). Still, evidence for some of the relations was found in longitudinal research with adolescents in other parts of the world. Notably, there have been studies with adolescents in Japan, where there is a cultural resemblance with South Korea (Hatano et al., 2018, 2020, 2022; Hihara et al., 2022). In these studies, adaptive identity development has been found to be associated with better adjustment. Corresponding specifically to the five-dimensional model in our study, depressive symptoms predicted higher RE, and conduct problems predicted lower EB after one year (Hatano et al., 2020). Longitudinal research has also been conducted in the

Netherlands and the U.S., where evidence of relations was found between adaptive identity processes (CM, IC, EB, and ED) and psychological adjustment and between RE psychological maladjustment (Becht et al., 2019; Crocetti et al., 2009; De Lise et al., 2024; Schwartz et al., 2012).

While there are broadly similar findings related to the associations between identity development and adjustment, whether or not the reciprocal associations are found may depend on how mature the state of identity development is. First, for individuals in the earlier stages of identity development, the role of psychological adjustment as a resource for identity development may be dominant, rather than the reverse. For instance, in the Netherlands, identity development and self-esteem (an indicator of psychological adjustment) were mutually related among young adults (Luyckx et al., 2013b). However, among adolescents, self-esteem predicted identity processes but not vice versa. Such finding suggests that identity development may play a more important role in the psychological adjustment of individuals who have developed more stable and synthesized commitments.

Another consideration is the timing of the research design (Klimstra & Schwab, 2021; Lerner et al., 2009). Most longitudinal research that examined identity development with psychological adjustment did so with measurement intervals of one year or six months. Our study, on the other hand, employed 2- and 4-month intervals. Variations in the length of intervals between measurements may provide either sufficient or insufficient time for the potential relations to emerge (Hatano et al., 2018), thus adding another factor that can influence the observed associations between identity development and adjustment.

### South Korea in 2020

As with any aspect of human development, identity development and adjustment are embedded in the sociocultural context (Bronfenbrenner, 1979; Y. Park & Johnson, 2024). In the case of South Korean young adults in 2020, two contextual characteristics could have been particularly influential.

First, South Korea has an extremely competitive and rigid education system that may delay identity development. South Korean society emphasizes academic achievement and attendance in prestigious colleges as one of the most important conditions for success (Ahn & Baek, 2013). To ensure higher chances of being considered successful in Korean society, many adolescents devote endless hours to studying for college admissions (OECD, 2019). With the overwhelming academic demand during adolescence, dealing with questions about who one is may be held off until early adulthood, which is relatively later than what dominant Western identity theories (e.g., Erikson, 1968) suggest. In fact, a cross-sectional cluster analysis using the five-dimensional model with South Korean young adults classified 75% of the sample into clusters involving active identity exploration, either adaptively (EB and ED) or maladaptively (RE), implying prolonged identity development (Y. Park et al., 2023). The identity development of young adults in South Korea may not yet be mature enough to offer self-regulatory benefits for adjustment. Consequently, adaptive identity development (e.g., CM, IC, EB, and ED) might be influenced by, rather than predictive of, adjustment.

Second, in early 2020, South Korea, along with other parts of the world, was facing unprecedented circumstances due to the COVID-19 pandemic. In South Korea, a series of intense social distancing policies were put in place beginning in late March 2020 all throughout the year, such as closures of public spaces including universities and corporate offices and restrictions on private gatherings. As important social spaces were practically shut down, young adults' well-being was severely impacted. For instance, depression increased in mid- to late-2020 compared to January 2020 (Ministry of Health and Welfare & Daegu University, 2020). These extreme changes in societal norms could have impacted the identity development of young adults because the availability of social activities integral to exploring commitments (i.e., EB and ED) had been hindered, and the meaning of previously existing commitments (i.e., CM and IC) may have changed. Under such circumstances, the potential relations between identity development and adjustment may have been disrupted.

## The current study

The goal of this study was to test whether there were bidirectional relations between identity development and psychological adjustment among South Korean young adults in 2020. Theory and empirical research suggest that CM, IC, EB, and ED and psychological adjustment may positively predict each other while RE and adjustment may negatively predict each other in young adulthood. However, due to excessive academic competition and limited resources for youth identity development in South Korea, we expected psychological adjustment may unidirectionally predict adaptive identity development. Moreover, we expected that the patterns of these associations may have changed after the implementation of social distancing measures, but did not have specific hypotheses due to the novelty of the circumstances. To examine these expectations, we surveyed South Korean young adults at three time points across the first half of 2020 about their psychological well-being, depressive symptoms, and identity development and used the cross-lagged panel models (CLPMs) to investigate whether there were reciprocal relations between dimensions of identity development and adjustment that potentially changed between early- and mid-2020.

## Method

### Procedure

We used data from the Personality and Time Study, of which the broad goal was to examine the continuity and change of personality characteristics. A subset of the data was published in a previous article (Moon et al., 2022); however, the results presented in this article are original and have not been published elsewhere. The study involved four waves of data collection across six months with two-month intervals starting in January 2020. Participants were recruited through an online community for current students and alumni of a 4-year university in a metropolitan area of South Korea. To note, the university is one of the top three universities in South Korea, with a highly competitive acceptance rate. An electronic flyer was posted online with a link to the online survey. Participants who clicked on the link were first directed to the informed consent form. After providing consent, they completed the Wave 1 online survey. After the first wave, participants were sent survey links via e-mail for ensuing waves of data collection. Participants received a total of 45,000 Won (approximately 40 dollars) as compensation for their time (5,000 Won for Wave 1, 10,000 Won for Waves 2 and 3, 20,000 Won for Wave 4). In the current study, we used a subset of the data from Waves 1, 2, and 4, as those were the waves that included measures of our interest.

### Participants

Participants were 99 South Korean young adults. Sample size was determined by the maximum number of participants that could be recruited with the available research funds. Three participants did not complete the demographics questions. Ages of the participants ranged from 19 to 34 ( $M = 23.4$ ,  $SD = 3.0$ ). There were 38 men (39.6%) and 57 women (59.4%), and one participant preferred not to say (1.0%).

## Measures

### Identity development

We used the Korean Dimensions of Identity Development Scale (KDIDS) that was originally developed by Luyckx et al. (2008) and translated into Korean and validated with South Korean young adults by Y. Park et al. (2023). The DIDS is comprised of five items each on five subscales: CM, IC, EB, ED, and RE. Example items include “I have plans for what I am going to do in the future” (CM), “My future plans give me self-confidence” (IC), “I think about different goals that

I might pursue” (EB), “I think about the future plans I already made” (ED), and “I worry about what I want to do in the future” (RE). Responses were made on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*). Higher scores indicated stronger engagement in the corresponding dimensions of the subscales. Internal consistency reliability (alpha) at Waves 1, 2, and 4, respectively, were .92, .92 and .93 for CM; .89, .91, and .93 for IC; .88, .89, and .93 for EB; .78, .79, and .84 for ED; and .77, .81, and .85 for RE.

### **Psychological well-being**

Psychological well-being (PWB) was measured as an indicator of positive psychological adjustment. The concept of PWB goes beyond simply feeling satisfied with life and refers to positive human flourishing and well-functioning (Ryff & Keyes, 1995). To measure PWB, we used the 30-item version of the PWB Scale developed by Ryff and Keyes that was translated into Korean by Shin et al. (2017). The PWB Scale consists of subscales measuring autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance. In this study, the average score across all 30 items was used as the aggregate indicator of psychological well-being. Participants responded to the items on a 7-point Likert scale (1 = *strongly disagree*; 7 = *strongly agree*) wherein higher scores corresponded to higher PWB. Examples of the items include “In general, I feel I am in charge of the situation in which I live.” Internal consistency reliability (alpha) at Waves 1, 2, and 4 were .91, .93, and .92, respectively.

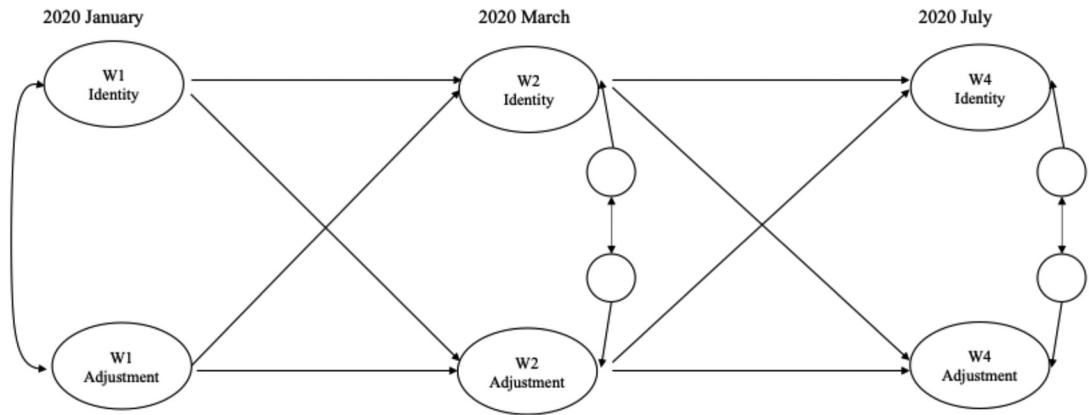
### **Depressive symptoms**

Depressive symptoms were measured as an indicator of negative psychological adjustment. The Center for Epidemiologic Studies Depression Scale (CESD) that was originally published by Radloff (1977) and translated into Korean by Chon and Rhee (1992) was used to measure depressive symptoms. The CESD consists of 20 items that measure the depressive mood that the respondent experienced in the past week. Each item was scored on a 4-point Likert scale (1 = *almost never*; 4 = *always*), wherein higher scores indicated stronger feelings of depression. Example items include “I felt sad.” In the current study, the average score across all items was used. Internal consistency reliability (alpha) at Waves 1, 2, and 4 were .90, .91, and .92, respectively.

### **Data analysis**

Associations between dimensions of identity development and indicators of adjustment were examined using CLPMs with maximum likelihood in *Mplus* (Muthén & Muthén, 2017). We tested models for each pair of an identity dimension (CM, IC, EB, ED, RE) and PWB or depressive symptoms. The model included autoregressive or stability paths of each variable, cross-lagged paths between variables, within-time correlations between variables at Wave 1, and within-time error covariances at Waves 2 and 4 (see Figure 1). The CLPM captures temporal associations between variables and reflects overall average effects without distinguishing stable between-person differences from within-person changes. This analysis method was chosen instead of the Random-Intercept CLPM (Hamaker et al., 2015) that may be able to model within-person change, because the power of our data was adequate for simpler models. Adding random intercepts and paths between residuals to CLPMs increases model complexity and the risk of imprecise estimates (Orth et al., 2021; Usami et al., 2019). As such, we determined that our small sample of 99 participants was not adequate to reliably conduct the RI-CLPMs.

Model fit was assessed using the Comparative Fit Index (CFI) and Standardized Root Mean Square Residual (SRMR). Based on the recommendations made by Hu and Bentler (1999), SRMR values smaller than .05 were considered to indicate good model fit, and values smaller than .08 to indicate acceptable model fit. CFI values larger than .90 were considered to indicate acceptable model fit and values larger than .95 to indicate good model fit. The Root Mean Square Error of Approximation



**Figure 1.** Visual depiction of the cross-lagged panel model for relations between identity development and psychological adjustment. The depicted model was tested for all pairs of a dimension of identity development and an indicator of psychological adjustment (i.e., CM and PWB, IC and PWB, EB and PWB, ED and PWB, RE and PWB, CM and depressive symptoms, IC and depressive symptoms, EB and depressive symptoms, ED and depressive symptoms, and RE and depressive symptoms). Scales scores of the dimensions of identity development and indicators of psychological adjustment were used in these models. Means and variances of the constructs at Wave 1, and intercepts and residuals of the constructs at Wave 2 and Wave 3 were not included in this depiction.

(RMSEA) was not used because the models had small degrees of freedom, which can bias RMSEA statistics (Kenny et al., 2015). The Tucker Lewis Index (TLI) was not used due to the complexity of CLPMs, which can overly penalize TLI statistics.

## Results

### Missing data

Out of the 99 participants who participated in Wave 1, four participants stopped participating in Wave 2. Two were 25-year-old women, and two did not respond to the demographics questions. At Wave 4, two participants additionally stopped participating; they were 22- and 26-year-old men. Full Information Maximum Likelihood was used to handle missing data in the main analyses.

### Preliminary analysis

We examined the distributional properties of and the correlations between the five identity dimensions and PWB and depressive symptoms in each wave (Table 1). The means and variances of each variable were similar across waves. Within-variable correlations across time were significantly positive. CM, IC, EB, and ED had positive correlations with PWB and negative correlations with depressive symptoms. RE had reverse correlations with PWB or depression.

### Cross-lagged panel model

The fit indices and standardized coefficients of all CLPMs are presented in Table 2. All models had good to acceptable fit. All autoregressive paths were statistically significant with strong effect sizes (Orth et al., 2024). Cross-lagged paths showed that CM and IC were positively predicted by PWB in both intervals, and negatively predicted by depressive symptoms between W1 and W2. EB and ED were positively predicted by PWB and negatively by depressive symptoms between W1 and W2. RE was negatively predicted by PWB between W2 and W4. Depressive symptoms were negatively predicted by IC and ED between W2 and W4. Results of the supplemental sensitivity analyses are provided in the Online Supplementary Material.

**Table 1.** Descriptive statistics and correlations between study variables.

Variable	<i>M (SD)</i>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
1. IC W1	4.7 (1.0)																				
2. IC W2	4.7 (1.1)	.80**																			
3. IC W4	4.7 (1.2)	.73**	.82**																		
4. CM W1	4.7 (1.2)	.85**	.75**	.70**																	
5. CM W2	4.7 (1.2)	.73**	.87**	.68**	.75**																
6. CM W4	4.8 (1.1)	.73**	.81**	.84**	.77**	.81**															
7. EB W1	5.3 (0.9)	.52**	.49**	.44**	.41**	.35**	.38**														
8. EB W2	5.2 (0.9)	.47**	.60**	.53**	.36**	.44**	.44**	.75**													
9. EB W4	5.3 (1.0)	.34**	.42**	.54**	.29**	.29**	.43**	.68**	.74**												
10. ED W1	5.1 (0.9)	.59**	.65**	.62**	.60**	.54**	.57**	.61**	.54**	.54**											
11. ED W2	5.0 (0.9)	.59**	.77**	.66**	.56**	.65**	.64**	.55**	.71**	.49**	.80**										
12. ED W4	5.2 (1.0)	.40**	.52**	.59**	.44**	.44**	.57**	.55**	.58**	.78**	.72**	.65**									
13. RE W1	4.4 (1.2)	-.65**	-.61**	-.59**	-.69**	-.60**	-.59**	-.19	-.24*	-.16	-.28**	-.36**	-.18								
14. RE W2	4.3 (1.2)	-.55**	-.59**	-.48**	-.56**	-.64**	-.54**	-.14	-.22*	-.05	-.25*	-.29**	-.10	.67**							
15. RE W4	4.3 (1.3)	-.61**	-.60**	-.68**	-.58**	-.59**	-.65**	-.14	-.25*	-.18	-.26*	-.34**	-.17	.68**	.67**						
16. PWB W1	4.7 (0.8)	.64**	.65**	.65**	.47**	.50**	.53**	.57**	.66**	.51**	.52**	.63**	.47**	-.45**	-.37**	-.46**					
17. PWB W2	4.7 (0.8)	.47**	.64**	.65**	.31**	.51**	.52**	.49**	.62**	.49**	.45**	.61**	.47**	-.32**	-.42**	-.42**	.86**				
18. PWB W4	4.8 (0.8)	.47**	.61**	.73**	.37**	.44**	.58**	.40**	.59**	.51**	.44**	.57**	.45**	-.34**	-.34**	-.54**	.82**	.85**			
19. Dep W1	1.7 (0.4)	-.39**	-.47**	-.54**	-.32**	-.36**	-.38**	-.21*	-.34**	-.28**	-.27**	-.40**	-.30**	.41**	.33**	.43**	-.69**	-.62**	-.63**		
20. Dep W2	1.7 (0.5)	-.15	-.34**	-.32**	-.09	-.28**	-.23*	-.19	-.28**	-.23*	-.19	-.33**	-.27**	.20*	.23*	.26*	-.48**	-.61**	-.53**	.66**	
21. Dep W4	1.7 (0.5)	-.24*	-.43**	-.58**	-.19	-.33**	-.44**	-.13	-.34**	-.28**	-.24*	-.39**	-.30**	.28**	.27**	.51**	-.52**	-.62**	-.75**	.66**	.68**

IC = Identification with Commitment; CM = Commitment Making; EB = Exploration in Breadth; ED = Exploration in Depth; RE = Ruminative Exploration; PWB = Psychological Well-Being; Dep = Depressive symptoms.

\* $p < .05$ . \*\* $p < .01$ .

**Table 2.** Model fit indices and standardized coefficients of CLPMs.

Model variables		Fit indices				Standardized coefficient										
						Autoregressive path				Cross-lagged path				Correlation		
						Id		Adj		Adj to Id		Id to Adj		W1	W2	W4
Id	Adj	Chi-square	df	CFI	SRMR	W1 to W2	W2 to W4	W1 to W2	W2 to W4	W1 to W2	W2 to W4	W1 to W2	W2 to W4	W1	W2	W4
CM	PWB	34.34**	4	0.94	0.04	0.66**	0.73**	0.90**	0.84**	0.20**	0.15*	-0.11	0.02	0.47**	0.41**	0.42**
CM	Dep	34.99**	4	0.91	0.05	0.70**	0.81**	0.70**	0.64**	-0.14*	0.01	0.13	-0.14	-0.32**	-0.25**	-0.41**
IC	PWB	23.42**	4	0.96	0.02	0.64**	0.68**	0.94**	0.78**	0.23**	0.21**	-0.13	0.11	0.64**	0.45**	0.47**
IC	Dep	24.54**	4	0.95	0.04	0.72**	0.80**	0.71**	0.61**	-0.20**	-0.04	0.12	-0.21**	-0.39**	-0.24*	-0.52**
EB	PWB	25.96**	4	0.95	0.03	0.56**	0.71**	0.87**	0.78**	0.32**	0.04	-0.03	0.10	0.57**	0.23*	0.14
EB	Dep	26.33**	4	0.92	0.05	0.71**	0.73**	0.65**	0.64**	-0.18**	-0.01	-0.05	-0.15	-0.21*	-0.05	-0.04
ED	PWB	30.60**	4	0.94	0.04	0.64**	0.58**	0.85**	0.80**	0.30**	0.10	0.01	0.07	0.52**	0.23*	0.07
ED	Dep	34.16**	4	0.90	0.05	0.74**	0.63**	0.66**	0.62**	-0.20**	-0.05	-0.01	-0.17*	-0.27**	-0.14	-0.03
RE	PWB	23.93**	4	0.95	0.05	0.64**	0.60**	0.89**	0.85**	-0.07	-0.16*	0.09	0.02	-0.45**	-0.41**	-0.52**
RE	Dep	29.53**	4	0.91	0.06	0.64**	0.64**	0.70**	0.65**	0.06	0.11	-0.09	0.12	0.41**	0.11	0.49**

Id = Identity development process; Adj = Index of psychological adjustment; CFI = Comparative Fit Index; SRMR = Standardized Root Mean Square Residual; CM = Commitment Making; IC = Identification with Commitment; EB = Exploration in Breadth; ED = Exploration in Depth; RE = Ruminative Exploration; PWB = Psychological Well-Being; Dep = Depressive symptoms.

\* $p < .05$ . \*\* $p < .01$ .

## Discussion

Identity development is a critical aspect of young adults' development that can affect and be affected by psychological adjustment (Luyckx et al., 2013a). The current study examined these relations among South Korean young adults during the COVID-19 pandemic in 2020. We used self-report data to investigate cross-lagged associations between five dimensions of identity development and two indicators of psychological adjustment (PWB and depressive symptoms). The cross-lagged effects from W1 (January 2020) to W2 (March 2020) reflect a 2-month period before pandemic-related changes, whereas W2 to W4 (July 2020) reflect a 4-month period after those changes. Results provided insights into young adults' identity development and psychological adjustment in the South Korean context pre- and post-pandemic. However, the differing time intervals require caution in interpretation.

In the first interval of the current study, psychological adjustment was more of a resource for engagement in identity development processes than outcome, as was predicted on the basis of the competitive context of South Korean youth. CM, IC, EB, and ED were all positively predicted by PWB and negatively predicted by depressive symptoms between January and March 2020. The stronger role of PWB as a resource rather than an outcome of identity development can be evidence for the relative immaturity of South Korean young adults' identity development, as this pattern was found in younger high school students in other countries (Luyckx et al., 2013b). One of the possible reasons for such relative immaturity is the competitive South Korean education system that forces adolescents to delay engaging in questions about who they are to prioritize academic achievement and college admissions (Ahn & Baek, 2013). The influence of such context may have been especially more potent in the current sample as they were students or graduates of a competitive university in South Korea, for which the participants may have devoted more time and resources for admission in adolescence. Because identity is a crucial factor for positive development (Erikson, 1968), South Korean educational institutions should reassess their practices to provide more opportunities for identity development for their youth.

The relations between identity development and psychological adjustment changed in the second interval. First, the role of adjustment as a resource for identity development weakened. While stronger PWB still predicted stronger CM and IC, it no longer predicted EB or ED. Moreover, lower depressive symptoms did not predict later engagement in any of the identity development dimensions. Second, identity development emerged as a resource for adjustment. Specifically, IC and ED predicted fewer depressive symptoms.

The onset of pandemic-related disruptions (e.g., intense social distancing) may have influenced these changes in the links between identity development and adjustment, reflecting the pandemic's impact on the psychological well-being of South Koreans (Ministry of Health and Welfare & Daegu University, 2020) and the social context in which identity development processes unfold. Due to drastic disruptions of everyday life during COVID-19, young adults may not have been able to explore new or existing identity alternatives even with high psychological adjustment. Rather, having a more developed sense of identity may have become a resource for psychological adjustment when navigating such times of uncertainty. This array of changes can be an explanation of why IC and ED, the processes involved in identity evaluation, predicted lower depressive symptoms, but not EB and CM, the processes involved in identity formation. PWB, on the other hand, may not have been predicted by identity development because the very environment in which young adults perform components of PWB, such as autonomy, environmental mastery, and positive relationships, was severely disrupted. Identity development alone may not have been influential enough for PWB.

However further scrutiny is required to ascertain such explanations due to the uneven interval lengths in the current study. We did not have identity development processes and psychological adjustment data collected in Wave 3, resulting in 2- and 4-month intervals. The change of interval lengths may have influenced the different associations between identity and adjustment. Timing of

observations is a critical element of longitudinal research design (Lerner et al., 2009), and identity processes may unfold differently across longer or shorter time spans (Klimstra & Schwab, 2021). As such, there is possibility that the impact of identity development and psychological adjustment on each other changed over different lengths of time.

There are several limitations and areas for further future research. First, due to the small sample size, the CLPMs may not have had sufficient power to estimate the associations between identity development processes and psychological adjustment. Although we found significant associations in some of the pairs between the identity development process dimensions and psychological adjustment, replication studies with larger sample sizes are needed to ensure the reliability of our findings. Second, robust comparisons between the relations in the first and second intervals, such as through comparing the fit of unrestricted and time-equivalent CLPMs, were not available due to the unevenness of interval lengths. Third, sampling bias is a potential limitation of the generalizability of our study. As the participants were recruited among students and alumni of a single university, there may be developmental factors common among the participants that are not representative of all South Korean young adults. Recruitment of a more representative sample through more diversified channels is needed to ascertain the generalizability of the findings of this study. Fourth, demographic information of the participants, such as socioeconomic status, can be considered in future research to better understand the heterogeneity of the context of the Korean youth population.

Despite its limitations, this study contributes novel insights into young adults' identity development and psychological adjustment in South Korea during the COVID-19 pandemic. Our study may help South Korean educational institutions better foster identity development among their youth, preparing them more effectively to navigate future uncertainties.

## Disclosure statement

No potential conflict of interest was reported by the author(s).

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## Data availability statement

The data that support the findings of this study are available from the corresponding author upon request.

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