

# Life Transition Events and Depressive Symptom Trajectories During Young Adulthood:

## *The Influence of Adverse Family and Individual Contexts in Adolescence*

**Tae Kyong Lee, Ph.D.**

Assistant Professor

Department of Child Psychology and Education / Social Innovation Convergence Program

Sungkyunkwan University



SUNGKYUNKWAN  
UNIVERSITY (SKKU)

# Outline

- **Life Transition Patterns to young adulthood**

- ✓ **Social Timetable & Life transition events to young adulthood** (*Completing school, leaving home, beginning one's career, Marrying, and Becoming a parent*), *Precocious Development*

- **Life Transition Events & Mental Health**

- ✓ **Transition-linked Turning Point Perspectives**

- **Empirical Research**

- ✓ **Two articles published in Social Science Research & Developmental Psychology**

# Life course perspective emphasizes **Timing of life Transition in a person's life**

- The **antecedents and consequences of life transitions events** vary according to their **timing** in a person's life.
- **Turning Points** (*e.g., social clock theory; transition-linked turning points*)  
e.g.) Normative vs non-normative transition patterns (*precocious transitions; early / late marriages*)

# ***Timing of Life Transition Events to Young Adulthood***

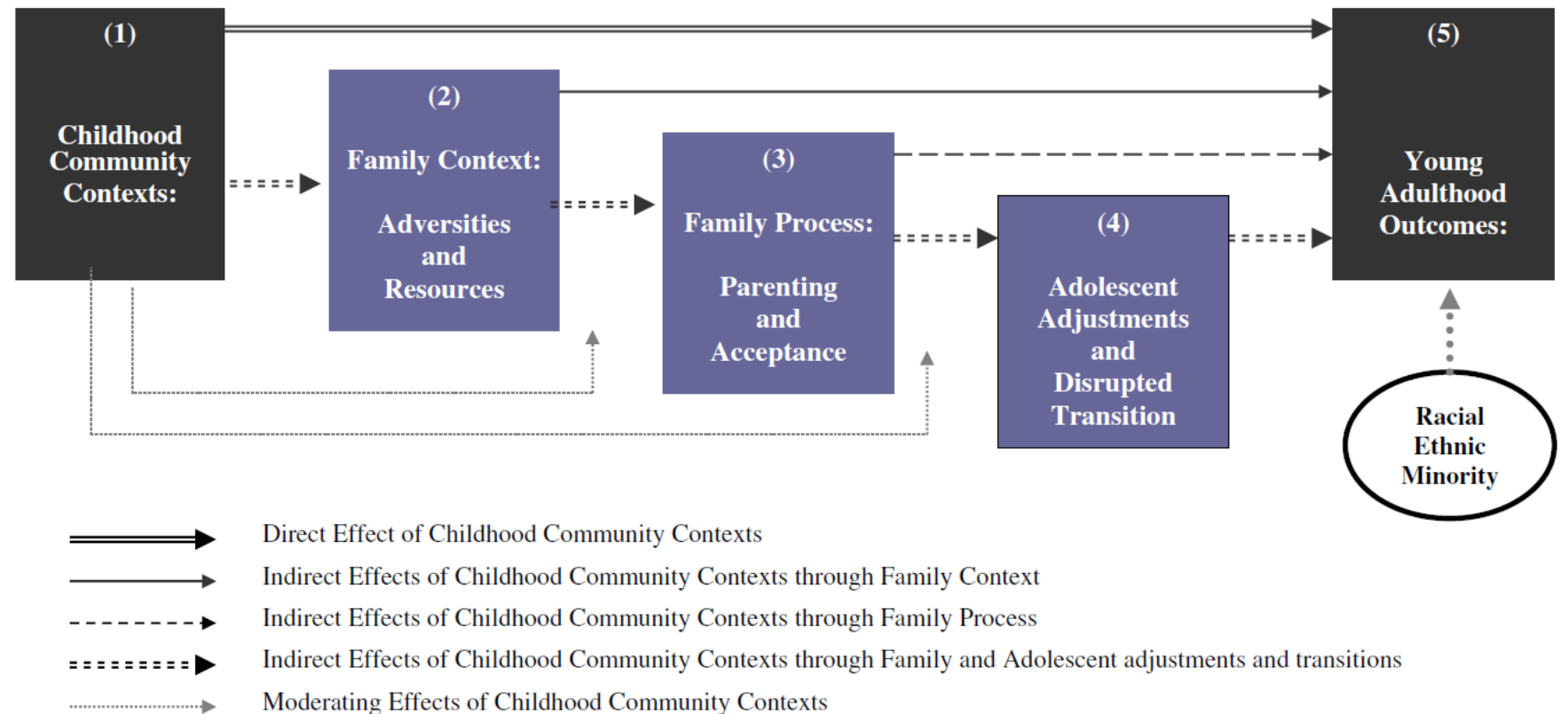
- The ***social timetable*** perspectives emphasize the importance of considering the *timing* of events and the *sequence* of event occurrence (Elder, 1975).
  - 1) Completing school
  - 2) Beginning one's career
  - 3) Marrying
  - 4) Becoming a parent
- Arnett (2007) suggested that most people in Western societies have settled into their adult roles by ***age 35***

# Life Transition Events to Young Adulthood

## ■ Precocious Development (entrance to early adult roles)

### The Long Arm of Community: The Influence of Childhood Community Contexts Across the Early Life Course

K. A. S. Wickrama · Samuel Noh

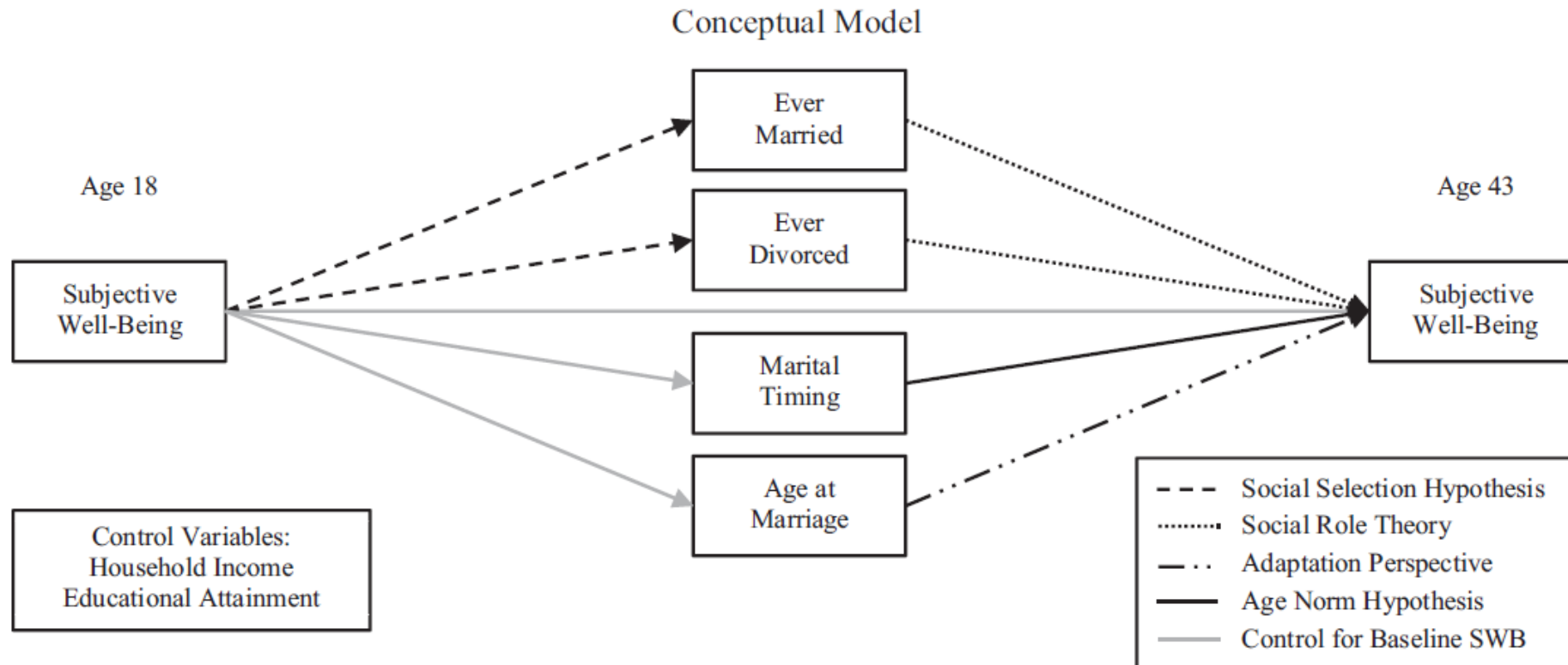


# Life Transition Events to Young Adulthood

## ■ Slow Starter

### Better Late Than Early: Marital Timing and Subjective Well-Being in Midlife

Matthew D. Johnson, Harvey J. Krahn, and Nancy L. Galambos  
University of Alberta

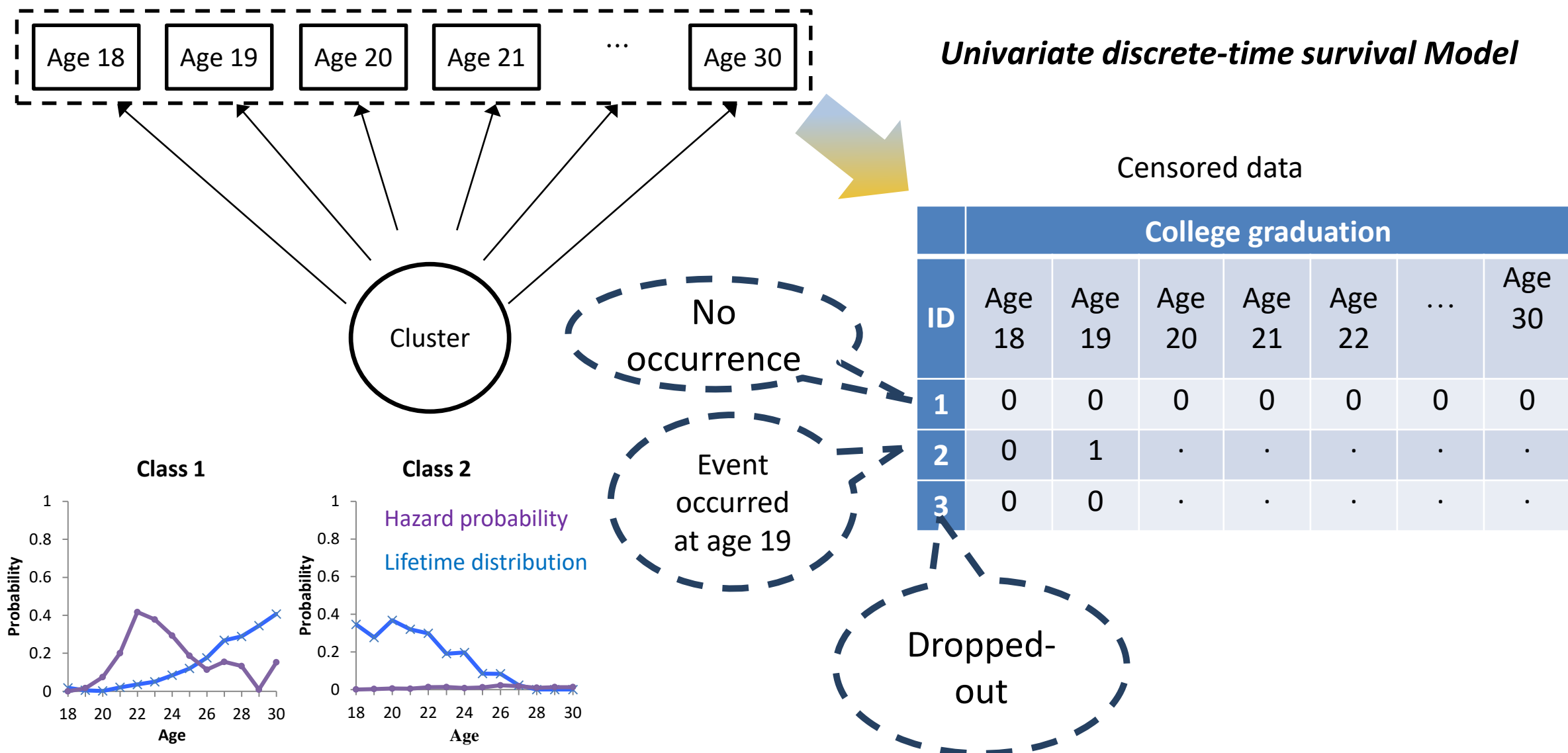


# ***Distinct Patterns in Life Transition Events*** *(Timing and Sequential Processes)*

- These early and slow starter patterns may suggest timing of each transition events may differ among young adults, suggesting the **distinct timing of life transition events**.  
e.g., marriage at 23 age or full-time job at 21 age.
- These distinct timing of one transition event often has **sequential or cascading consequences** for other transition events (**event dependency**; Mastern et al., 2005)  
e.g., Completing school (*age 23*) → Beginning one's career (*age 23 or 24*) → Marrying (*age 28*) → Becoming a parent (*age 30*)
- **Timing and sequence of transition events** may allow some individuals to follow non-transitional transition patterns (*suggesting distinct patterns in life transition events*).  
e.g., Beginning one's career → Marrying → Becoming a parent → School Dropout (or late graduate)

# Discrete Mixture Survival Modeling *(to identify distinct timing of single events)*

**Univariate** discrete-time survival mixture model





# Actual estimation process of clustering...

Suppose that  
three-class  
model is  
estimated  
(using 4 items),

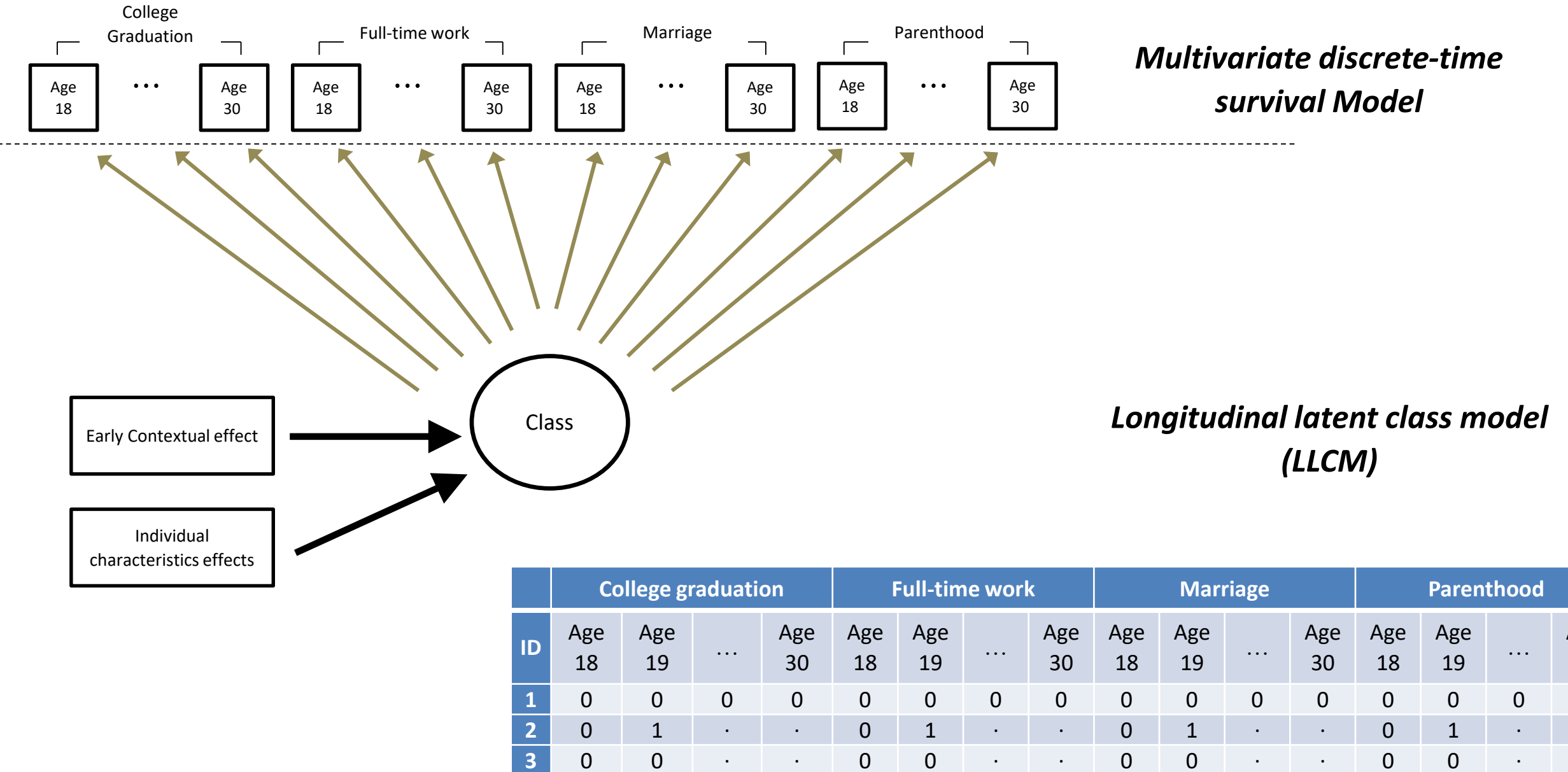
Model estimation  
(through *iteration*  
process)

C# = # of Class.  
PROB= Posterior  
Probability  
**Posterior probabilities**  
(from model estimation)  
to be assigned  
each individual

Generated

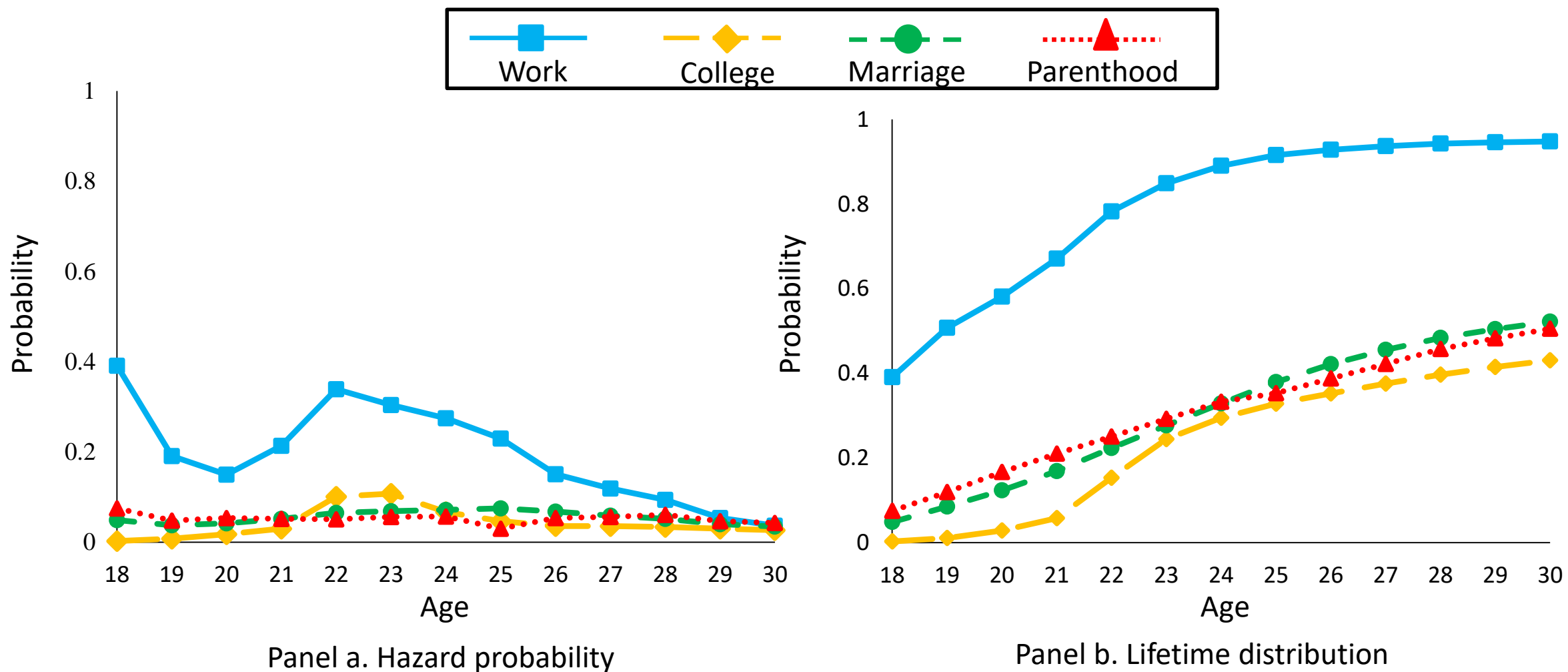
ID	DEP1	DEP2	DEP3	DEP4
4	1.170	1.250	1.170	1.580
7	1.100	1.170	1.080	1.000
8	1.250	1.000	1.000	1.420
10	1.100	1.330	1.080	1.250
12	1.080	1.000	1.000	1.000
13	1.000	1.330	1.080	1.500
16	1.220	1.580	1.420	1.170
17	1.130	1.330	1.580	1.080
3	1.500	1.850	1.750	1.830
5	1.670	2.020	2.080	2.170
11	1.670	2.250	1.750	2.080
15	1.580	2.030	1.420	2.330
2	2.920	2.670	2.820	3.170
60	2.420	2.080	3.000	2.670
66	2.670	2.170	3.000	2.420
73	3.080	2.880	2.000	2.670

# Multivariate Discrete Mixture Survival Modeling *(to identify distinct patterns of multiple events)*

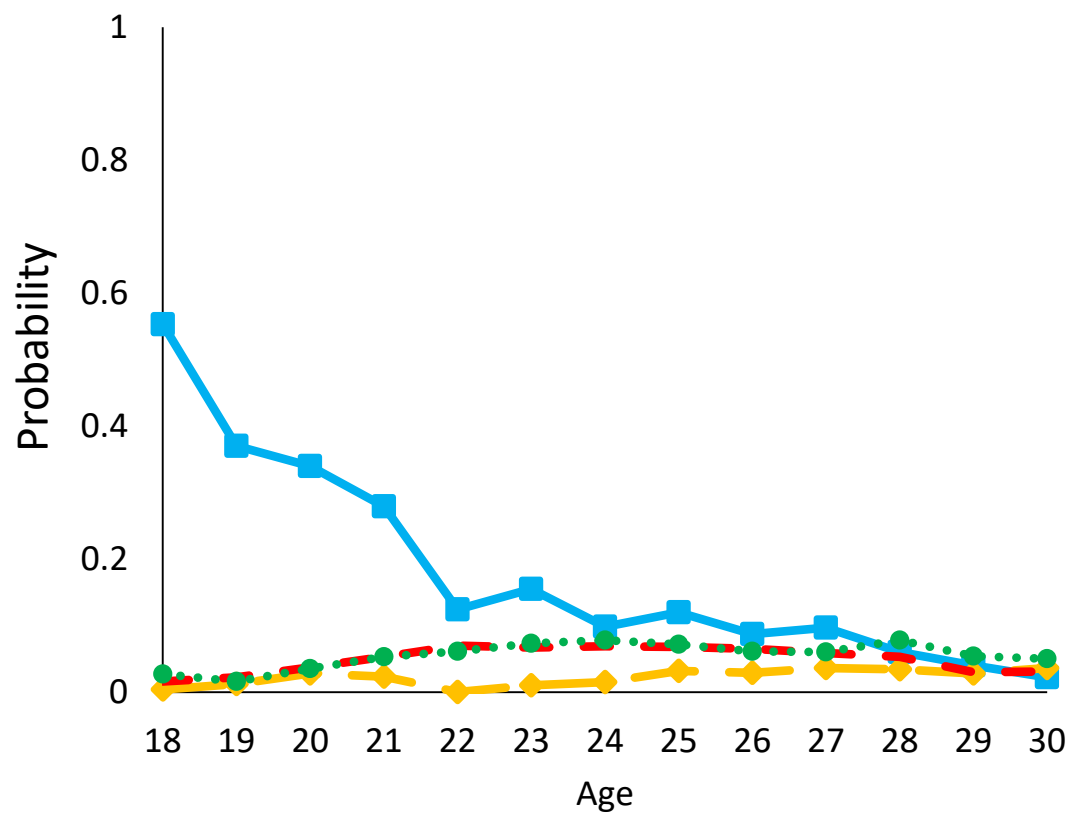


# Empirical Evidence I

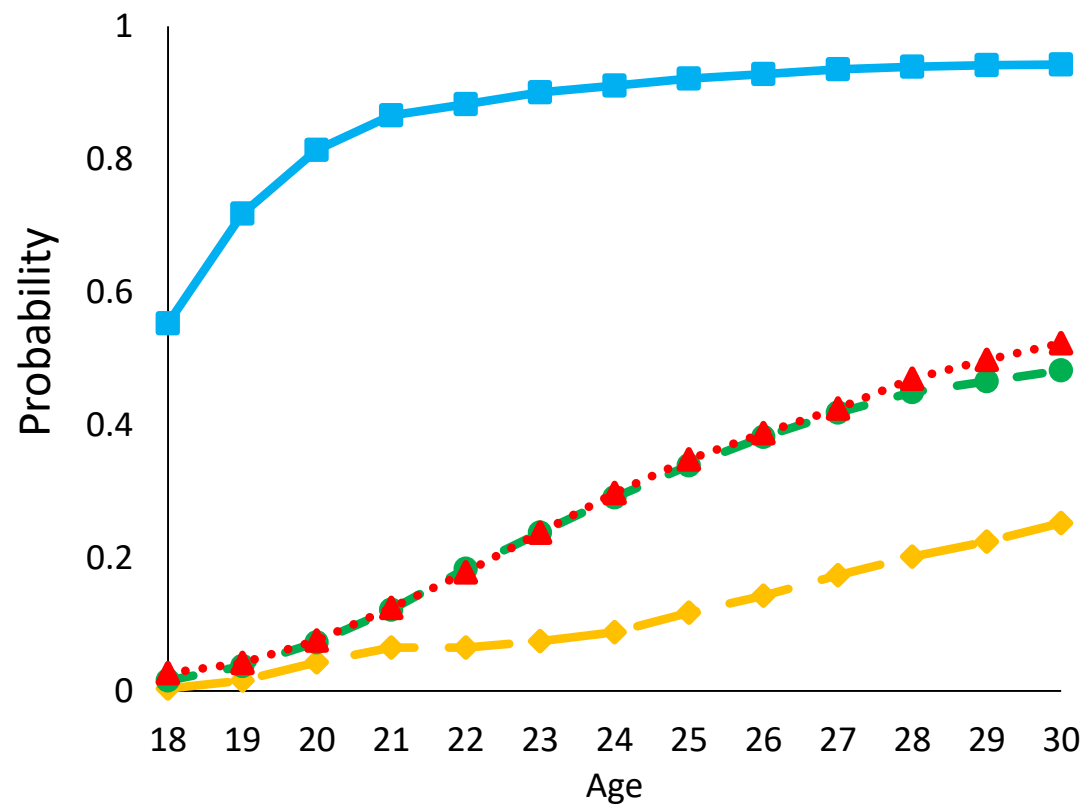
Sample observed probabilities (Data: Add-health data, 1995 to 2009)



**Class 1: Early work and then family formation (n = 6,839, 47.2%); *Slow starter***



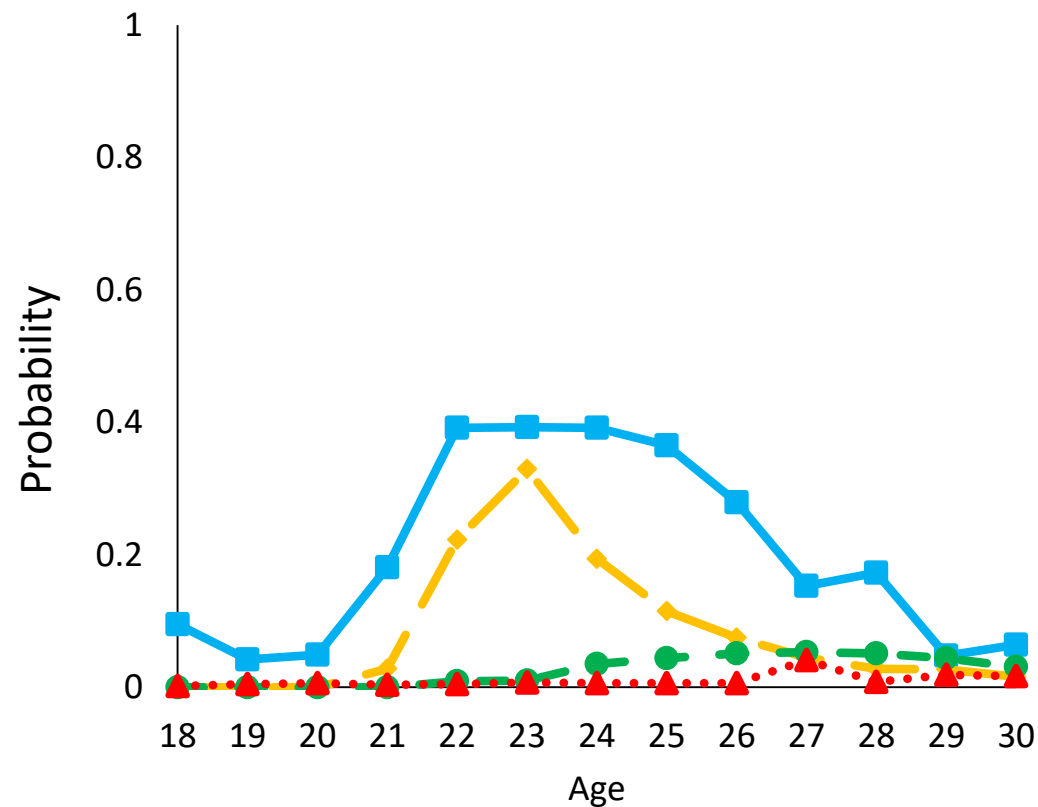
Panel a. Hazard probability  
(instantaneous timing of event)



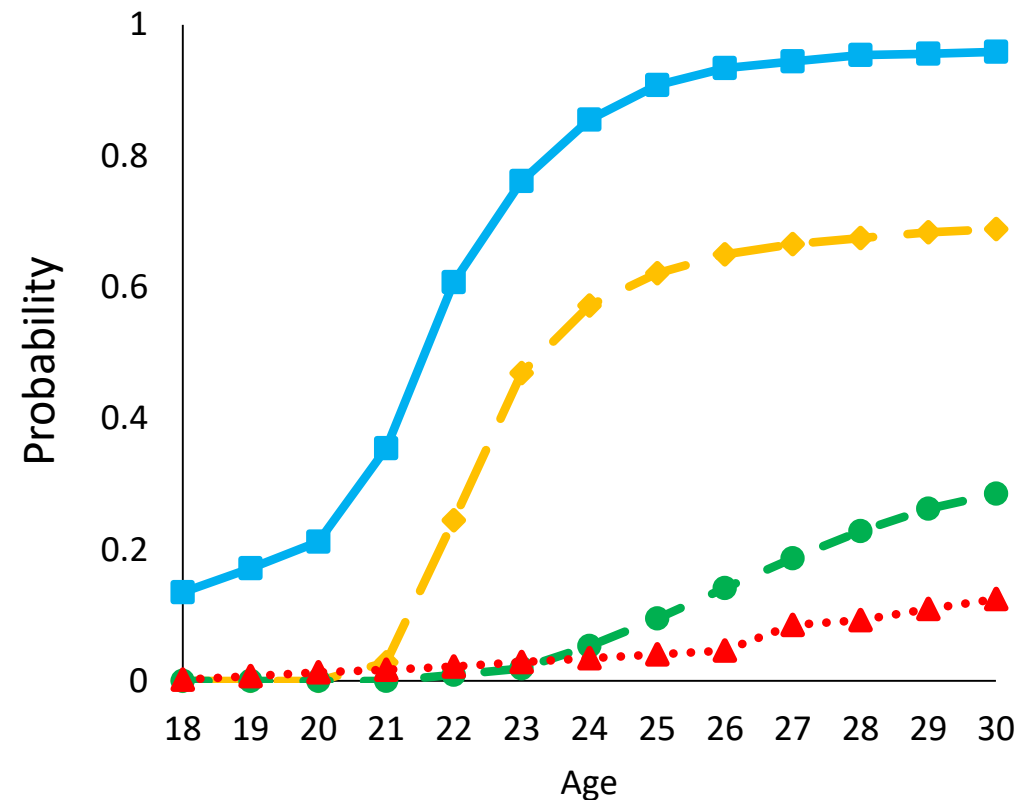
Panel b. Lifetime distribution probability  
(cumulative hazard probability)



# Class 2: Work/education with no family (n = 3,731, 25.7%)



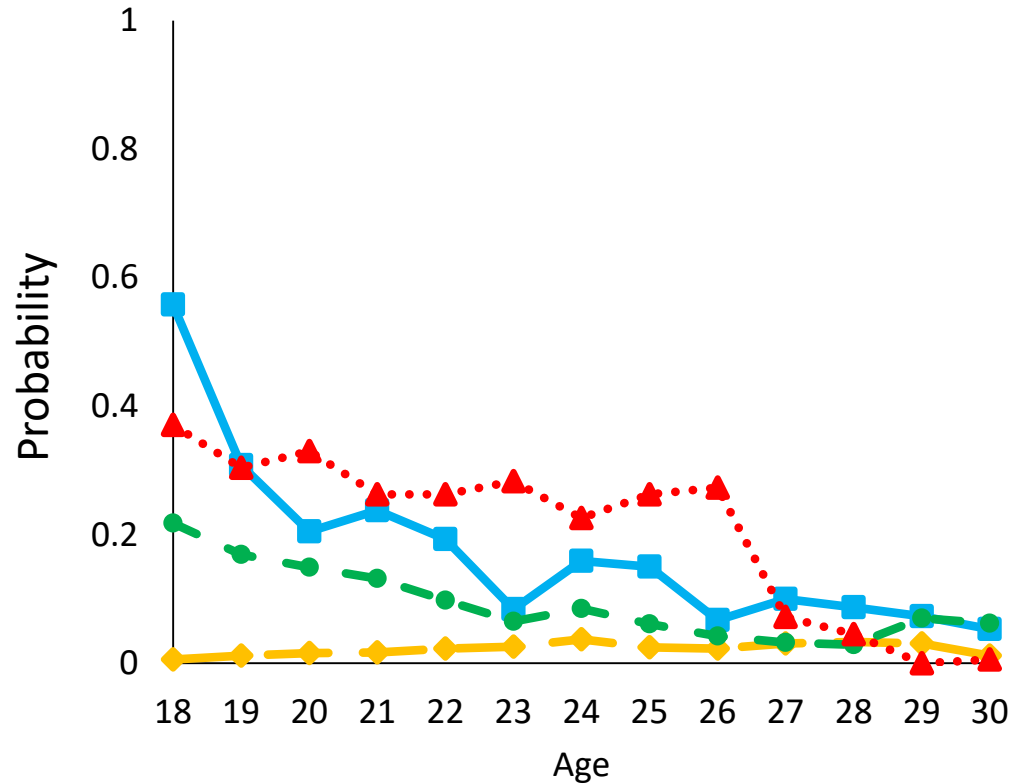
Panel a. Hazard probability  
(instantaneous timing of event)



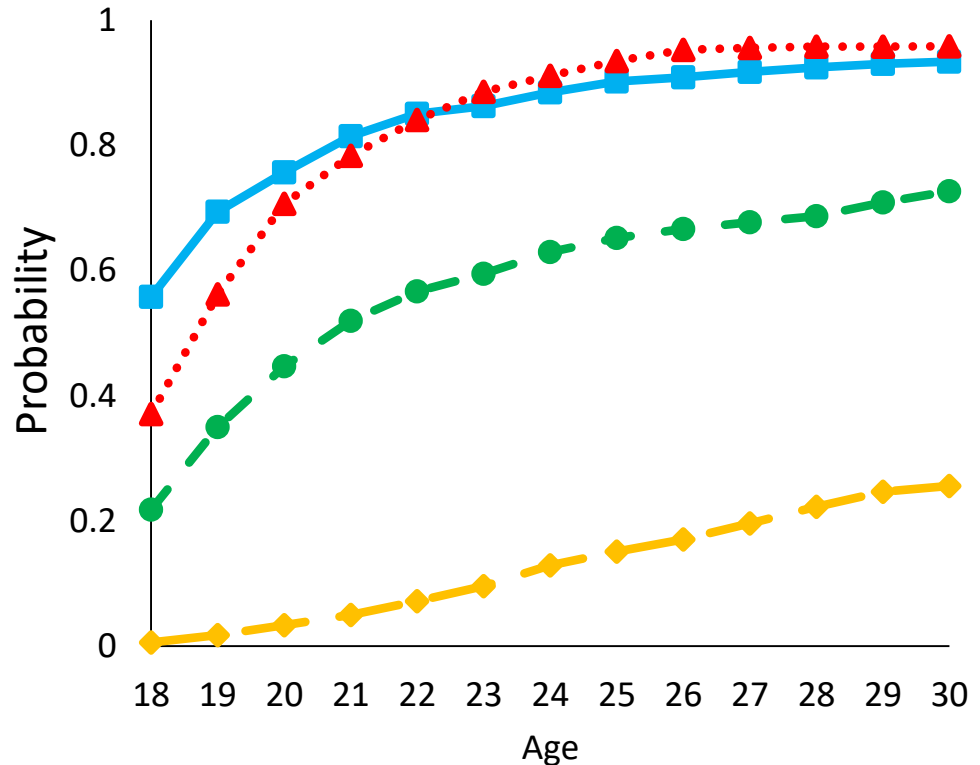
Panel b. Lifetime distribution probability  
(cumulative hazard probability)



### Class 3: Early work and early family (n = 2,677, 18.5%); *Precocious maturity*



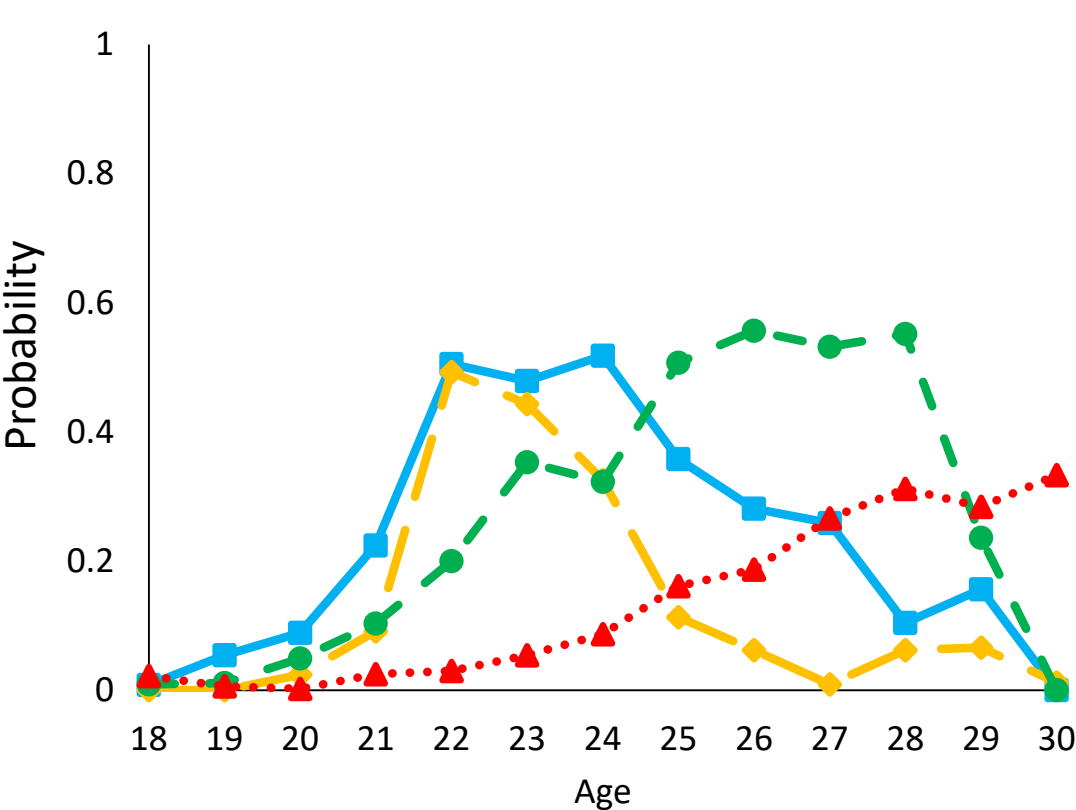
Panel a. Hazard probability  
(instantaneous timing of event)



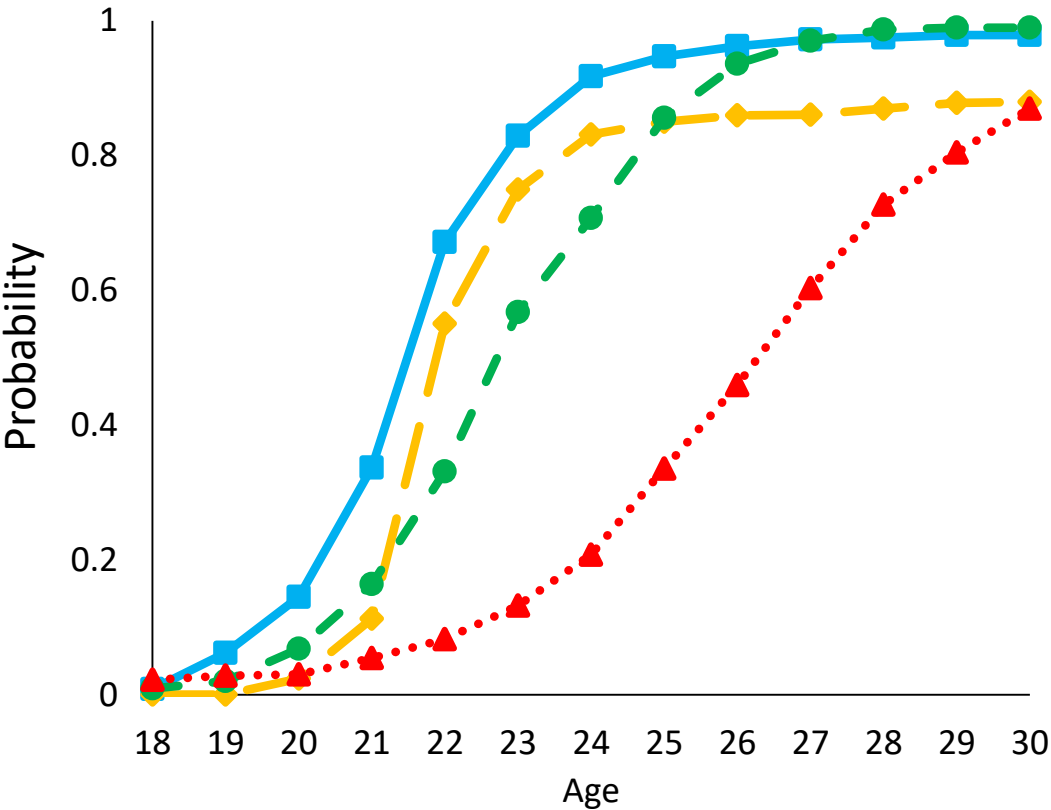
Panel b. Lifetime distribution probability  
(cumulative hazard probability)



# Class 4: Traditional transition pathway (n = 1,256, 8.7%)



Panel a. Hazard probability  
(instantaneous timing of event)



Panel b. Lifetime distribution probability  
(cumulative hazard probability)



## Cumulative Socioeconomic Adversity (CSA): index

*Including low parental education, family economic hardship, marital instability, community adversity*

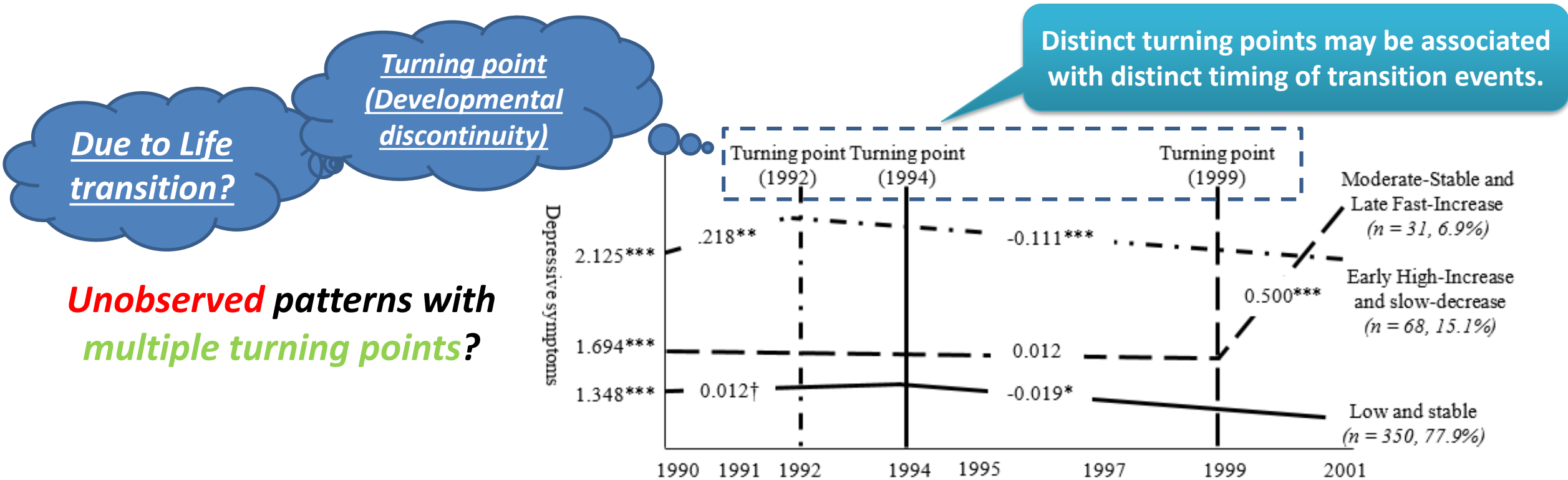
Reference	Early work and early Family		Early work and then family formation		Work and education		Early work and then family formation		Work and education		Work and education	
	Traditional transition				Early work and early family				Early work and then family formation			
	$\beta$ [CI]	OR	$\beta$ [CI]	OR	$\beta$ [CI]	OR	$\beta$ [CI]	OR	$\beta$ [CI]	OR	$\beta$ [CI]	OR
<b>Predictors</b>												
CSA	0.97*** [0.73, 0.99]	2.63	0.67*** [0.44, 0.68]	1.94	-0.06 [-0.17, 0.09]	0.94	-0.26*** [-0.32, -0.15]	0.76	-0.97*** [-0.98, -0.76]	0.38	-0.73*** [-0.83, -0.62]	0.48
Female <sup>a</sup>	0.19** [0.17, 0.36]	1.21	-0.91*** [-1.12, -0.66]	0.40	-0.51*** [-0.78, -0.27]	0.60	-1.07*** [-1.23, -0.92]	0.34	-0.58*** [-0.76, -0.37]	0.56	0.42** [0.26, 0.56]	1.51
Black <sup>b</sup>	0.49*** [0.13, 0.88]	1.62	0.25*** [0.14, 0.59]	1.28	0.65*** [0.22, 1.03]	1.92	-0.17 [-0.38, 0.02]	0.83	0.27 [-0.17, 0.60]	1.32	0.45*** [0.15, 0.74]	1.57
Hispanic <sup>b</sup>	1.05*** [0.65, 1.49]	2.86	0.93*** [0.52, 1.30]	2.52	0.76** [0.32, 1.17]	2.13	-0.09 [-0.36, 0.18]	0.91	-0.35* [-0.66, -0.04]	0.70	-0.15 [-0.38, 0.08]	0.86
Asian <sup>b</sup>	-0.55** [-1.42, -0.27]	0.57	-0.24 [-0.89, 0.47]	0.78	0.65* [0.06, 1.23]	1.89	0.40* [0.06, 0.75]	1.49	1.21*** [0.59, 1.80]	3.36	0.84** [0.34, 1.35]	2.33
Native <sup>b</sup>	-0.49 [-1.31, 0.69]	0.61	-0.76 [-1.36, 0.07]	0.47	-0.19 [-1.66, 1.15]	0.82	-0.02 [-0.39, 0.36]	0.99	-0.33 [-1.09, 0.21]	0.72	-0.13 [-0.66, 0.41]	0.88
MR <sup>b</sup>	-0.32 [-0.64, 1.05]	1.38	0.27 [-0.31, 0.93]	1.32	0.46 [-0.20, 1.15]	1.58	0.06 [-0.32, 0.44]	1.06	-0.21 [-0.21, 0.81]	1.20	0.11 [-0.32, 0.54]	1.12
Age	-0.05* [-0.12, -0.01]	0.94	-0.08* [-0.13, -0.02]	0.92	-0.15*** [-0.22, -0.08]	0.86	-0.02 [-0.07, 0.02]	0.98	-0.09* [-0.16, .01]	0.91	-0.06* [-0.12, -0.01]	0.94

Notes.  $\beta$  = Unstandardized logistic coefficients. CSA = Cumulative Socioeconomic Adversity. CI = Confidence Interval (95%). OR = Odds ratio. MR = Multi-racial youth. Time in-varying predictors were used from Wave 1 (1995). Statistically significant differences are indicated in bold.



# Life Transition Events & Mental Health

- Transition-linked turning points perspective: Deviations from the traditional, or normative, **timing of life transition events** is related to risky turning points in mental health problems (Garber & Brooks-Gunn, 1996).



# Empirical Evidence II

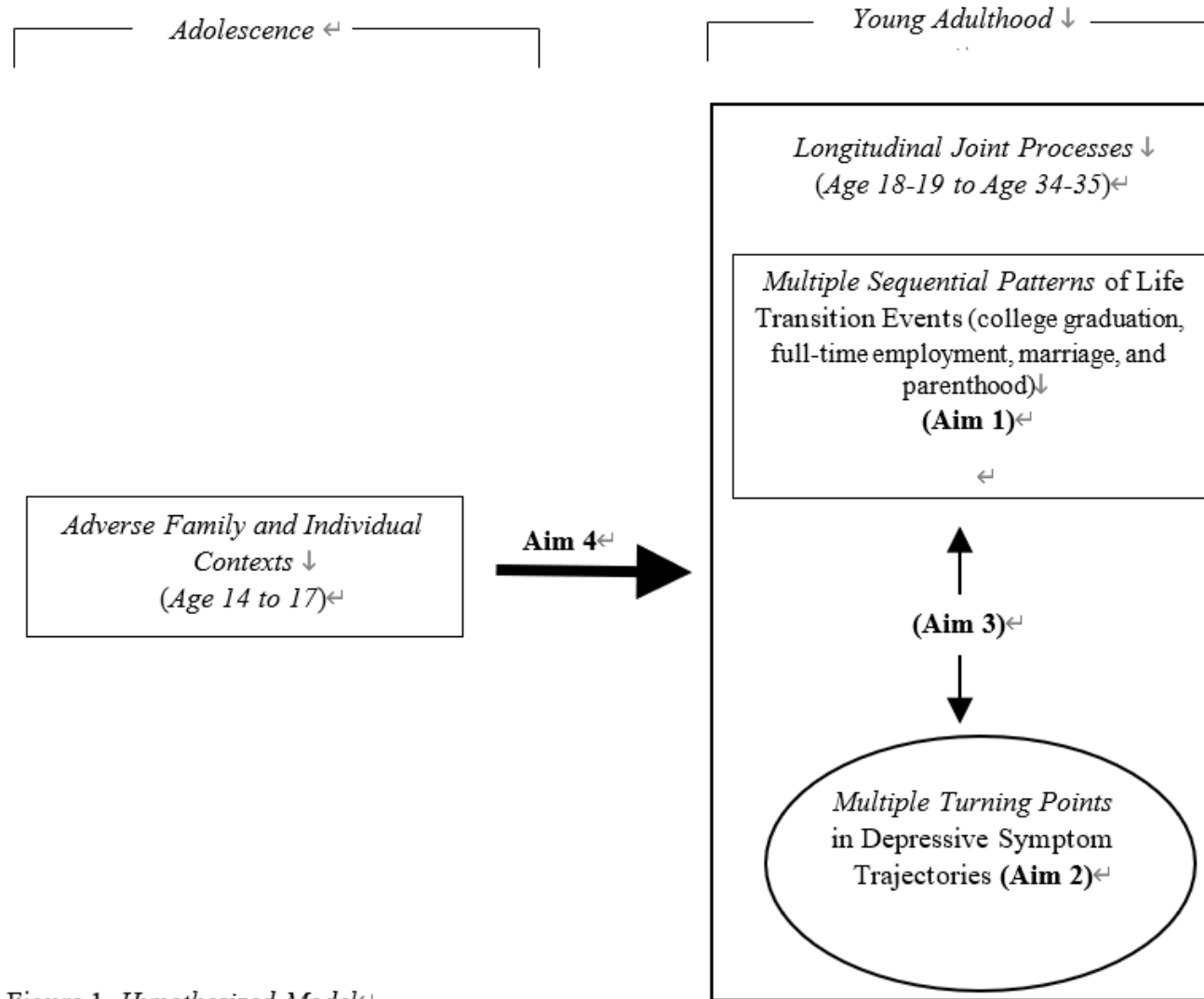


Figure 1. Hypothesized Model

Lee, T.K., Wickrama, K.A.S., O'Neal, C.W., Neppl, T., & Reeb, B. T. (In press). Life transition events and depressive symptom trajectories during young adulthood: the influence of adverse family and individual contexts in adolescence. *Developmental Psychology*.

# Life Transition Events & Mental Health (Cont.)

Sample Data (Family Transition Project: 100% White family, 1989 to 2010)

Aim 1: Identify of distinct patterns of transition events

	Total <sup>↵</sup>		Traditional Transition <sup>e</sup> ↓ (n=292, 65.5%) <sup>↵</sup>		Early Parenthood Transition <sup>f</sup> ↓ (n=104, 23.4%) <sup>↵</sup>		Precocious Transition <sup>g</sup> ↓ (n=50, 11.1%) <sup>↵</sup>		↵
↵	Mean Age <sup>↵</sup>	95% CI <sup>↵</sup>	Mean Age <sup>↵</sup>	95% CI <sup>↵</sup>	Mean Age <sup>↵</sup>	95% CI <sup>↵</sup>	Mean Age <sup>↵</sup>	95% CI <sup>↵</sup>	Wald value (df) <sup>↵</sup>
Life Transition Events <sup>↵</sup>									
College Graduation <sup>a</sup> ↵	23.56 <sup>↵</sup>	23.32, 23.81 <sup>↵</sup>	23.32 <sup>↵</sup>	23.01, 23.62 <sup>↵</sup>	23.27 <sup>↵</sup>	22.96, 23.58 <sup>↵</sup>	32.10 <sup>↵</sup>	28.23, 35.96 <sup>↵</sup>	21.13 (2)*** <sup>a, f &lt; g</sup> ↵
Full-time Employment <sup>b</sup> ↵	22.88 <sup>↵</sup>	21.99, 23.77 <sup>↵</sup>	23.12 <sup>↵</sup>	22.84, 23.40 <sup>↵</sup>	22.57 <sup>↵</sup>	22.11, 23.03 <sup>↵</sup>	19.67 <sup>↵</sup>	19.33, 20.01 <sup>↵</sup>	19.67 (2)*** <sup>g &lt; a, f</sup> ↵
Marriage <sup>c</sup> ↵	25.35 <sup>↵</sup>	24.87, 25.84 <sup>↵</sup>	25.88 <sup>↵</sup>	25.31, 26.45 <sup>↵</sup>	25.84 <sup>↵</sup>	25.19, 26.49 <sup>↵</sup>	22.46 <sup>↵</sup>	20.22, 24.66 <sup>↵</sup>	140.80 (2)*** <sup>g &lt; a, f</sup> ↵
Parenthood <sup>d</sup> ↵	26.62 <sup>↵</sup>	26.17, 27.07 <sup>↵</sup>	27.09 <sup>↵</sup>	26.49, 27.68 <sup>↵</sup>	25.94 <sup>↵</sup>	25.89, 26.18 <sup>↵</sup>	22.25 <sup>↵</sup>	20.88, 23.63 <sup>↵</sup>	43.35 (2)*** <sup>g &lt; f &lt; a</sup> ↵
Wald value (df) <sup>↵</sup>	331.00 (3)*** <sup>a, b &lt; c &lt; d</sup> ↵		192.83 (3)*** <sup>a, b &lt; c &lt; d</sup> ↵		264.10 (3)*** <sup>a, b &lt; c, d</sup> ↵		527.45 (3)*** <sup>b &lt; c, d &lt; a</sup> ↵		—↵

Note. CI=Confidence Interval. A Bonferroni correction was applied for multiple comparisons. ↓  
\*\*\*p<.001.<sup>↵</sup>

# Aim 2: Identification of multiple turning points in depressive symptoms

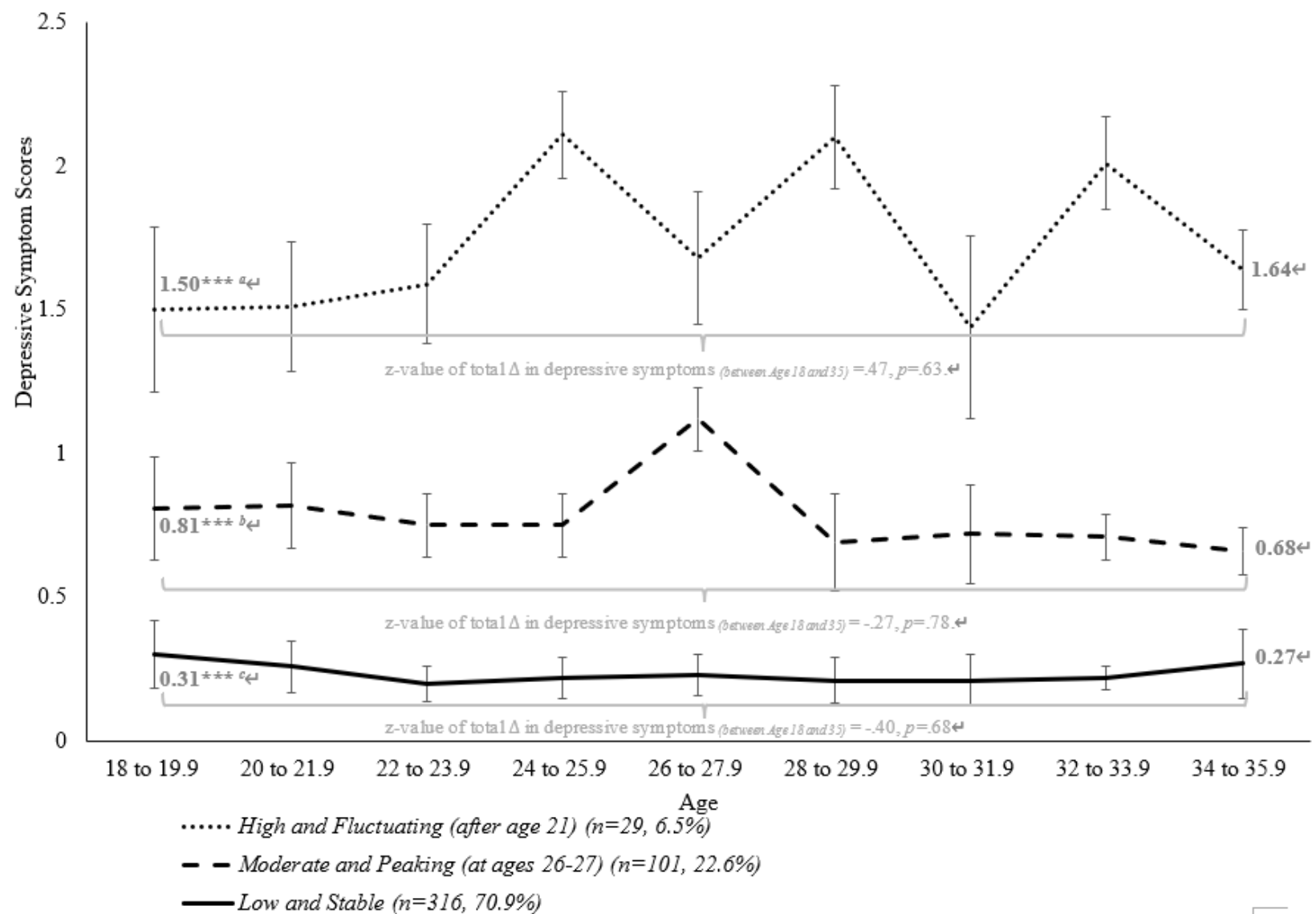


Figure 2. Estimated Means of Depressive Symptoms for the Three Trajectory Classes. ↓  
Note. The bolded values are the unstandardized estimated values at age 18-19 and 34-35. Error bars reflect 95% confidence intervals. Initial level mean scores with the same subscript are not significantly different from one another. Initial level mean comparisons were conducted using Wald chi-square tests. ↓  
\*\*\*p<.001.↵

Aim 3: Joint processes of transition events and turning points in depressive symptom trajectories

	Depressive Symptom Class Trajectories			Row Total
	Low and Stable	Moderate and Peaking	High and Fluctuating	
Patterns of Life Transition Events				
Traditional Transition	63.8% <sub>1</sub>	4.3% <sub>2</sub>	<b><i>0.4%<sub>3</sub></i></b>	65.5%
Early Parenthood	5.1% <sub>4</sub>	18.3% <sub>5</sub>	<b><i>0.0%<sub>6</sub></i></b>	23.4%
Precocious Transition	5.0% <sub>7</sub>	<b><i>0.0%<sub>8</sub></i></b>	6.1% <sub>9</sub>	11.1%
Column total	70.9%	22.6%	6.5%	100.0%

Note. The subscript numbers assign joint group membership. Values in bold and italic (groups 3, 6, and 8) indicate the groups that were excluded from the final analysis due to the small percentage and/or empty cells.

$\chi^2(4, 446)=11.86, p < .05.$

# Summary of Joint Processes

Early transition period  
(early work and early family)

Early marriage and  
parenthood (but  
graduation and  
employment in time)

Traditional transition  
patterns

Multiple turning points  
throughout twenties  
and early thirties

Multiple turning points  
in only mid-to-late  
twenties

No turning points

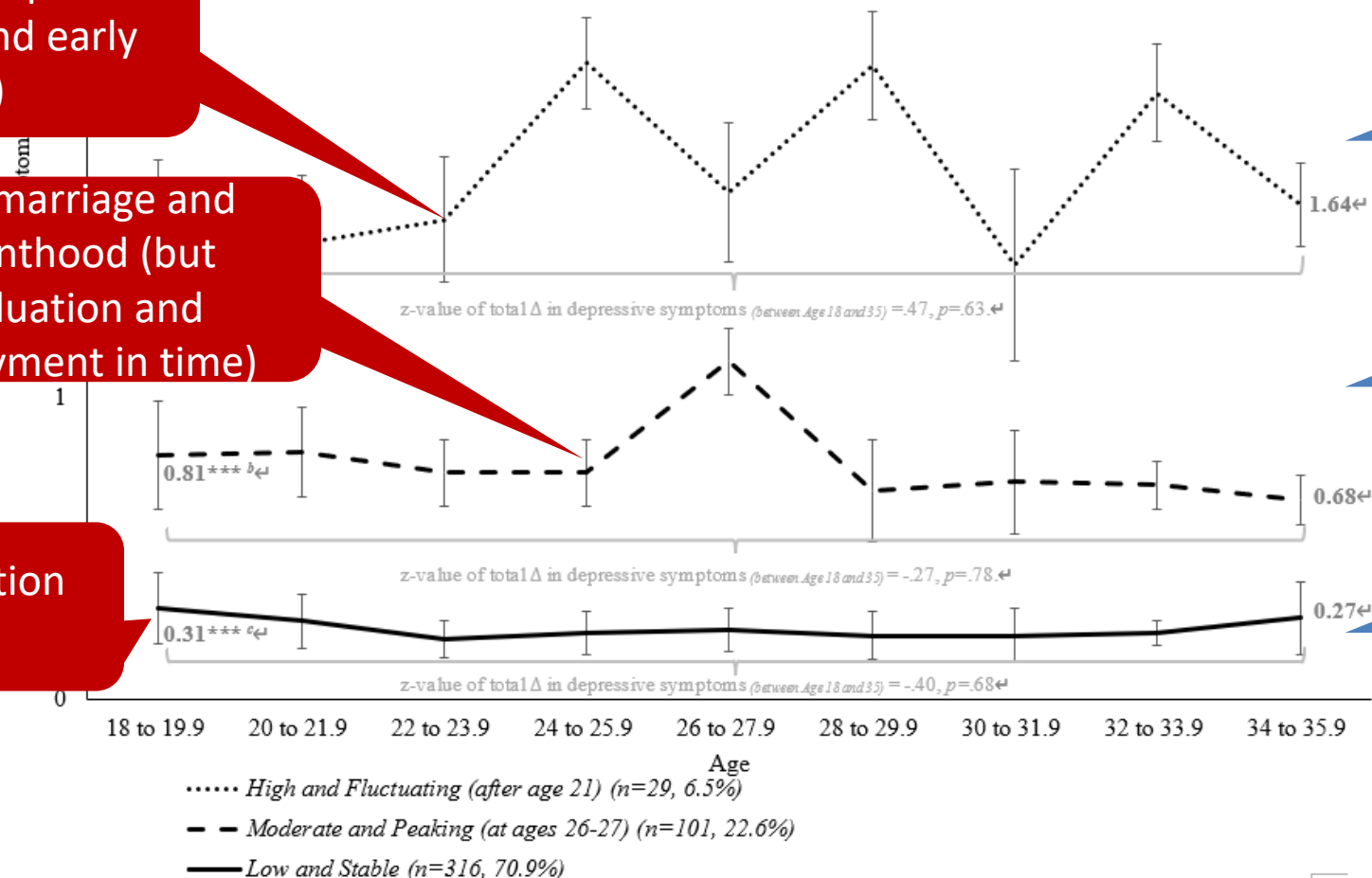


Figure 2. Estimated Means of Depressive Symptoms for the Three Trajectory Classes. ↓

Note. The bolded values are the unstandardized estimated values at age 18-19 and 34-35. Error bars reflect 95% confidence intervals. Initial level mean scores with the same subscript are not significantly different from one another. Initial level mean comparisons were conducted using Wald chi-square tests. ↓

\*\*\* $p < .001$ .

# Aim 4: Associations of Adverse Family and Individual Contexts in Adolescence with Joint Class Membership of Patterns of Life Transition Events and Depressive Symptom Trajectories.

	Early Parenthood <sup>LTE</sup> & Low and Stable <sup>DEP</sup>	Precocious <sup>LTE</sup> & Low and Stable <sup>DEP</sup>	Traditional <sup>LTE</sup> & Moderate and Peaking <sup>DEP</sup>	Early Parenthood <sup>LTE</sup> & Moderate and Peaking <sup>DEP</sup>	Precocious <sup>LTE</sup> & High and Fluctuating <sup>DEP</sup>
Reference	Traditional Transition <sup>LTE</sup> & Low and Stable <sup>DEP</sup>				
Predictors	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)	OR (95% CI)
Negative Family Economic Events <sup>a</sup>	1.04 (.72, 1.50)	1.07 (.72, 1.74)	1.31 (.74, 2.29)	<b>1.15* (1.03, 2.11)</b>	<b>2.72*** (2.23, 3.30)</b>
Hostile Relationships with Parents <sup>b</sup>	1.60 (.96, 2.52)	1.45 (.80, 2.62)	<b>1.93* (1.03, 3.66)</b>	<b>1.50* (1.09, 2.75)</b>	<b>2.18** (1.33, 3.58)</b>
Impulsive Sensation Seeking <sup>b</sup>	<b>1.46* (1.23, 1.92)</b>	<b>1.53*** (.21, 1.33)</b>	1.49 (.88, 2.60)	<b>1.56* (1.05, 2.32)</b>	<b>2.78** (1.87, 4.10)</b>
Controls					
Annual Family Income	1.01 (.99, 1.02)	.98 (.97, 1.01)	1.01 (.98, 1.03)	.99 (.98, 1.01)	.99 (.98, 1.00)
Female (vs. Male)	.67 (.38, 1.17)	.41 (.16, 1.06)	1.78 (.65, 4.89)	<b>2.75* (1.19, 6.38)</b>	<b>3.78*** (2.55, 5.60)</b>

Note. OR=Odds Ratio. CI=Confidence Interval. LTE=Life Transition Event. DEP=Depressive symptom. Bold and italics indicate statistically significant coefficients.

a=Parent report. b=Adolescent report.

\*p<.05. \*\*p<.01. \*\*\*p<.001.

# Discussion

- Distinct Patterns of Life Transition Events (*from adolescence to young adulthood*)
  - ✓ Needed to modify (or update) the **social timetable** perspectives
- Multiple turning points in depressive symptom trajectories
  - ✓ Needed to modify (or update) the **transition-linked turning points** perspectives
- Distinct Associations of Family and individual adversities
  - ✓ Supported **cumulative adversity** perspectives (Additive effects)



# ***Limitations and Implication***

- *Only U.S. results*
- *Synergistic (multiplicative) effects of early adversities*
- Consequences in adulthood (Continuity of Early Adversities)
- **Identifying adversities or people at risks** has implication for developing and effectively targeting intervention and prevention efforts.



[ltk501@skku.edu](mailto:ltk501@skku.edu)

*Thank You!*