Transfer Receptivity Indicators and Student Assets as Sequential Support Mechanisms on Campus: A Moderated Mediation Analysis of Transition Smoothness for UC Santa Barbara Transfer Students

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March 13th, 2026

Abstract

This research investigates the institutional impact of transfer receptivity, defined as a university's active prioritization of transfer students rather than mere permittance. Recognizing that traditional outcome metrics like GPA can be reductive and fail to capture lived experiences, this study employs Transfer Receptivity, Critical Race Theory (CRT) and asset-based frameworks to investigate the relationships between variables that may impact the transition process. This single-institution quantitative analysis utilized a campus-wide survey of 570 transfer students at UC Santa Barbara. The study followed a three-stage analytical protocol: Foundational Assessment: 1) Confirmatory Factor Analysis (CFA) validated the latent construct of Social, Aspirational, and Navigational Assets (*SANA*) consisting of: academic self-efficacy, sense of belonging, and navigational capital. Model Validation: 2) Structural Equation Modeling (SEM) tested a serial mediation model where perceived transfer support predicts transition smoothness through the mediators of transfer receptivity indicators and student assets (SANA). Population Clustering: 3) Latent Class Analysis (LCA) identified distinct student groups based on intersectional identities to test for global moderation of the serial mediation. Results confirmed that perceptions of high institutional support predict smoother transitions specifically by bolstering Transfer Receptivity Indicators (welcomeness, reputation, and reduced timeline stress), which in turn strengthen student's *SANA*. Perceived level of support showed evidence of mediation though the direct effect on transition outcomes wasn't significant, suggesting in this model support only works when it manifests through tangible receptivity and student assets. LCA identified four distinct clusters. Notably, for the cluster representing women from low-income and underrepresented minority (URM) backgrounds, "welcomeness" was not a significant predictor of transition success. Conversely, for non-low-income/non-URM groups,

receptivity indicators were essential to translate support into student assets.

Transfer Receptivity Indicators and Student Assets as Sequential Support Mechanisms on Campus: Moderated Mediation Analysis of UC Santa Barbara Transfers

The purpose of this paper is to honor the vast cultural wealth that transfer students carry with them to higher education as a population of intersectional, non-traditionally served students. This study seeks to investigate the impact of a university's transfer receptivity, defined as commitment to not merely permittance of, but prioritization of transfer students. Over the past forty years, transfer rates to undergraduate universities have steadily risen, aided in part by federal and state policies, but the numbers themselves do not capture the role of the transfer pathway as the fire that forges opportunity for minoritized Americans. American community colleges have evolved into spears and shields– tools to liberate the rights to social mobility pathways– used by women, people of color, parents, veterans, and many more for whom the middle class is effectively gated by higher education (Carnevale et al., 2003; 2013; Dowd et al., 2008).

This single-institution quantitative cross-sectional analysis uses a campus-wide survey to measure UC Santa Barbara's reflected institutional impact on students, through transfers' experiential interpretations of their transition quality. We explore the influences of 1) indication of transfer receptiveness, and 2) social, aspirational, and navigational assets as mediators between perception of support for transfer students, and perceived transition smoothness. Using transfer receptivity, CRT, and an asset based approach (Frady & Sims, 2023; Jain et al., 2020; Yosso, 2005), variables were selectively chosen. Next using structural equation modeling, a serial mechanism through which high perceptions of support translate into smoother transitions was modeled. Transfers wield cultural wealth and hope in one hand, and the refusal to

subordinate in the other; this study attempts to study the power of this pairing, and its promise for transfer student success.

Prioritizing Student-Centered Design for Transfer Student Evaluation

When considering the theories of student success which have dominated the past sixty years, and the ways in which interpretations of institutional responsibility in facilitating student success have been historically framed, definitions of student success are in need of critical re-evaluation. With a background understanding of historical student success theories (e.g. Tinto's model, 1975), but influenced by asset-based and critical race theories, this paper offers an integrated view that acknowledges the cultural wealth that transfer students bring to university campuses, while also exploring both institutional responsibility and student characteristics that promote student success. Lanaan and Jain (2016) asserts that the impact of transfer student stigma, much like transfer students and their facilitatory needs, can widely vary. Therefore, as much as conditional effects based often on sociodemographic factors are steeped in deficit-framed inquiry, the exploration of moderation using structural equation modeling techniques offers newer ways to explore an asset-framed understanding of students to understand transfer populations and identify the nature and specificity of the conditionality. Likewise recommendations for evaluation of transfer student success have stayed select to traditional outcome metrics (GPA, pass/fail rates, graduation rates), even though these measures may be reductive of, lack the perspective of, or fail to consider the lived experiences of the students at that university.

This study approaches assessing equitable transfer student outcomes by analyzing the process and not the products of those students' experiences. This is in order to prioritize the transfer experience *above* traditionally valued metrics of transfers (e.g. GPA), and to introduce

measures which have relevance not only to institutions, but to current and prospective transfers as well. In the literature, concern for performance-related transfer student outcomes (and what deficits persist when status quoues don't change) has been historically biased, and has led to circumstances where transfers are deterministically disempowered by institutional expectations and stigma maintaining deficit-framed research. Exploring how important constructs like transfer support impact transfer students' quality of their transitions could elucidate needs for specific support, and whether or not the serial support mechanisms are moderated for different groups of transfer students.

Key Assets for Undergraduate Success

Many studies support the assertion that psychological factors such as efficacy & belonging are important for undergraduate student success, which can be considered assets of students (Bandura & Zimmerman, 1992; Hurtado & Carter, 1997), and provide guidance for informing best equitable practices for curriculum and programming for both educators and universities. The first of these student assets in focus is academic self-efficacy, which is a state-based personal belief about one's confidence in their academic abilities (Bong & Skaalvik, 2003; Honicke & Broadbent, 2016), typically affected by the individual's interactions within the academic environment (which is the for the 4 year university for transfers). Academic self-efficacy plays a tremendous role in determining both ability beliefs & performance (Bong & Skaalvik, 2003; Honicke & Broadbent, 2016), and has been shown to significantly mediate the relationship between certain racial identities and impact i) performance and ii) self-efficacy outcomes (Ballen et al., 2017; DeFreitas & Bravo, 2012).

The second asset is sense of belonging, a similarly implicated value which has been shown to be something that positively impacts student's efficacy (Bong & Skaalvik, 2003;

Trujillo & Tanner, 2014; Zysberg & Schwabsky, 2021). Sense of belonging also has important implications for predicting positive student success performance outcomes such as GPA (Murphy & Zirkel, 2015), and is again another state-based quality which is deeply impacted by the interactions of the student in the college environment.

The third resource to highlight is a construct called navigational capital, a resource identified by Yosso (2005) as part of their community cultural wealth model. The community cultural wealth model is a framework which identifies the diverse array of culture and knowledge-based resources which all students bring with them to college, and navigational capital is defined as the ability to maneuver through social situations and organizational processes (Yosso 2005). Laanan and colleagues (2011) hypothesize that navigational capital is a uniquely significant resource to track for transfer students, because of the threat transfers face navigating alienation and unfamiliarity at a brand new campus. This threat is unique from the unfamiliarity navigated by incoming freshmen, because the transfer pathway involves navigating a new academic environment at the 4 year university which is typically faster than their previous one, and facing the pressure of finishing a rigorous upper division curriculum in 2 years (Lanaan et al., 2010; Ng et al., 2025) . The UCSB 2025 Transfer Climate Report, provides qualitative insights that these are concerns that are impacting transfer students. How confidently a student feels they can navigate various school processes provides integral insight into how confident new transfers at a university feel about their fitting in. These tie in closely with Hurtado & Carter (1997)’s notion of cognitive mapping:

“*Students "scale down" their perspectives of the environment to make sense of it and, over time, get to know their large campus environments by affiliating with groups in the college community. This notion of cognitive mapping and the formation of multiple communities, or*

social niches, is useful in understanding minority students' collective affiliations on campus" (p. 329, Hurtado & Carter, 1997). Until students can demonstrate this navigational familiarity however, they are more vulnerable to interpreting the landscape as a hostile climate or failing to secure a sense of belonging.

The three key assets discussed above (academic self-efficacy, belonging, navigational capital) are all positively related to student success (Honicke & Broadbent, 2016; Gao & Adamson, 2022; Murphy & Zirkel, 2015; Samuelson & Litzler, 2016), and importantly can critically depend on campus climate and student reported presence of support, again underscoring the vital role of the university. The proportion of influence which can be attributed to the university can be difficult to determine, given that sociodemographic factors forecast systemic or cultural barriers, which translate to real impacts on these assets, and the threat is greater for those with particular intersection identities. What role institutions play in this should be uncovered, because publications that merely define this deficit do nothing to contribute to equitable action.

Dropout, Engagement, and Validation

The dynamic through which transfers leverage themselves to achieve undergraduate college success outcomes is one whose conceptual framework has shifted many times in the 20th and 21st century. For the purposes of clarity and relevance, we will only visit Tinto's (1975) *Dropout theory*, Astin's (1984) *Student Involvement Theory*, and Rendon's (1994; 2011) *Validation Theory*.

Dropout is a framework of student success (Tinto, 1975) which laid a foundation for institutional expectations of minoritized students, especially of students of color. It articulated an important prevailing theory, that interpersonal and academic interactions lead to campus

community embeddedness and academic performance, but Tinto used a deficit-framed lens, at least when it was published, to justify blaming students of color for *their* unwillingness to submit and assimilate with the hegemonic white cultures prevalent at American universities. While this study doesn't explicitly explore the effects of the constructs of student engagement and validation, it is relevant to be familiar with the historic expectations (or often, lack thereof) set out for non-traditionally served undergraduates, because it underscores the backwards norms that have long dictated the unfamiliarity and disempowerment of students whose cultures don't match up with that of the dominating cultures on campus.

Dropout has since been intentionally reinterpreted by scholars Astin and Rendon (1984; 2011) considering student assets, retaining the level of importance placed on engagement and validation of students who are engaging, but shifting the orientation, questioning *the university's responsibility* in facilitating student engagement and validation. It also opened up deeper and more concerning questions about what it meant to be a minoritized student on campus and to experience implicit and explicit discouragement and obstruction from the university. Harper & Quaye (2009) assert that culturally-specific resources and spaces on campuses are necessary for minoritized students, and advocate for educators to be able and willing to validate students' journeys and empower them to engage, so that equitable access to education can be preserved at the baccalaureate-granting institutional level. The current study uses this theoretical framework to inform the exploration of the institutional commitment to transfer receptivity, which demands the explicit and exemplar prioritization of transfer students, and asserts the responsibility on the behalf of a university and its representatives to administrate it.

Asset-based Approaches to Student Success

Flint & Jaggers (2021) summarized asset-based pedagogies as: empowering educators and students with belonging, agency, and well-being; recognizing and defining systemic barriers like racism, and; enacting the systematic dismantling of racism. Asset-based researchers assert that change in *world* practice is needed, and it has to originate with educational practice, whose foundations are designed by *research*. Asset-based approaches diverge from the Tinto (1975) 'integration' model. They illustrate that the context that the framework was built on was designed around explicit premises of the persistence of cycles of patriarchal elitism and wide-spanning barriers of access, actively protected via a dominant culture of perpetuation (in other words, *systematic*). Asset-oriented researchers assert that research in higher education did not historically contain any narratives strengthening the knowledge and culture of minoritized populations. They took issue with the blank space in literature, which paired with historic national/racial pressure to assimilate (while blaming them for failing to do so), generationally impacted expectations for minoritized students and beget educator/administrative orientations which charged blame upon non-traditionally served students.

Critical pedagogies, starting with Brazilian philosopher Paulo Freire (1970), argued that because educators with their praxis set forth the parameters for future generations of educators, that they also have the power to consciously reinforce social stratification, and facilitations (or barriers) of access to social mobility. Educators can transform the world, as they so directly influence the beliefs and behaviors of those next (Giroux, 1985). Asset-based approaches focus on this, striving to orient research to acknowledge and raise up minoritized students' strengths and potential, facilitating social change by starting with educational institutions, rather than simply defining discriminatory contexts.

Critical Race Theory in Education

Our model adopts many dispositions from Jain and colleagues' *Power to the Transfer: Critical Race Theory and a Transfer Receptive Culture* (2020), and leans on the compassion and rationale developed by critical race theorists, particularly those that conducted research in education. It is worth reviewing critical race theory in education to contextualize the critical race theory components present in our grounding framework.

Ladson-Billings and Tate (1995) write that, prior to CRT, education research treated race as little more than a demographic descriptor rather than a theoretical construct. They saw how the fields of educational and equity research could measure differences between racial groups, but could not adequately explain *how* systemic racism produced those differences. By interpreting college processes through a deficit lens, universities and education researchers avoided confronting their historical and ongoing complicity in reinforcing racial hierarchies—through a mix of admissions practices, funding models, or curricular assumptions (Ladson-Billings & Tate, 1995). In doing so, they sidestep acknowledging their historical and ongoing role in producing and perpetuating racial inequities, both overtly and covertly, because such acknowledgment would require confronting the abstract yet materially consequential nature of race and, by extension, recognizing the ways in which it was historically used to disempower entire groups of students.

By contrast, Ladson-Billings's critical race theory of education insists that race cannot merely be observed or counted—it must be understood as a structural, socially constructed phenomenon that shapes a student of color's experience in college from top to bottom, and should compel universities to reckon with both the abstract and the concrete consequences of racialized systems in education (Ladson-Billings & Tate, 1994; 1995). CRT in education, then,

compels higher education to move beyond superficial recognition of racial (or otherwise conditional) identifiers and instead interrogate the structural barriers that create disproportionate challenges for students of color in access, persistence, and success (Ladson-Billings & Tate, 1995). This was a principle that influenced our analysis concerning access for transfers.

Transfer Student Capital

Transfer Student Capital is an asset-framed concept developed by Laanan and colleagues (2010) to reinterpret the unique needs and challenges transfer students consistently face through a community cultural wealth lens (Yosso, 2005). Laanan recognized that those who were compelled by the transfer function were those whose stories weren't realized at universities, and that transfer stigma leads to widespread disempowerment for broader populations, for example, so that students of color could not see themselves at the university level because of an assumption about their validity. They outlined data which revealed specific shared areas of adversity unique to transfers, identifying *transfer-specific factors* which affect success, such as the need for university interactions before transferring as well as accurate course credit articulation, also underlining a sense of transfer welcome-ness on campus. Instead of deriving a deficit narrative from statistical achievement gaps, Lannan and colleagues (2010) looked deeper at institutional root causes and at perseverance of hegemonic values/cultures, and challenged schools to scrutinize their own practices. The researchers' intentionality when designing this framework was to continue making space for transfer stories to emerge from university campuses. The influence of narratives via research are strong first steps to creating systemic downstream changes to future individual narratives, while simultaneously unseating prior deficit framed narratives set out by historic frameworks.

Transfer Receptive Culture

Jain and colleagues (2020) introduced the concept of transfer receptive culture when considering what universities can do to facilitate transfer student success. As asset-based theories gain prominence, the responsibilities of universities began to take center stage as an imperative factor for students not traditionally-served: this was relevant to transfers and transfer student researchers as it culminated in the idea of defining and measuring *transfer receptive culture*. Contemporary asset-based theories specifically for transfer students were meaningfully brought together by Jain et al. (2020) in *Power to The Transfer* to produce a comprehensive list of recommendations for universities to consider to further prioritize transfer equity, using important philosophies foundational to CRT in education. Examples of principles included: *outreach and resources* which focus on transfer-specific needs and concerns, and *identity, community, and family*, a commitment to honor and to assert the lived experiences and intersectional lives of transfer students.

Transfer receptive culture is relevant to our study because it provides the impetus for creating alternative measurements of equity and access to successful pathways. It outlines strong rationale for continuing equity research for transfer students, in order to regularly evaluate the recommendations it sets out for universities to follow to assert a culture of transfer receptivity. A committed transfer receptive campus creates the highest potential for equitable access for all transfers, and so a fitting assessment which measures transfer receptivity on campus would be able to demonstrate that students' experiences would be equal; in other words, the university would be able to mediate any negative outcome prediction owing to a student's characteristics, such as race or first-generation status.

Using A New Critical Framework for Transfer Student Research

This research was most directly inspired by the collaborative work between Lanaan and Jain (2016), who sought to devise the next generation of approaches used to consider transfer student success and equity, by identifying working modern theories and frameworks. The researchers explain the critical importance of viewing the transfer process from the broadest possible view, incorporating factors like *inputs or background characteristics*, and comparing/contrasting the *community college environment* and *university environment*. This framework is integral to us because it unites many of the prevailing critical race and asset-based theories together for the purpose of creating key recommendations, some of which have become the central foci for this study: 1) *application of a critical lens* and; 2) *advancing relevant questions to investigate*. This combination of concerns is what inspired our critical examination of transfers' perceptions of experiences on campus, because they define what campus is like for the student, rather than measuring from the outside looking in.

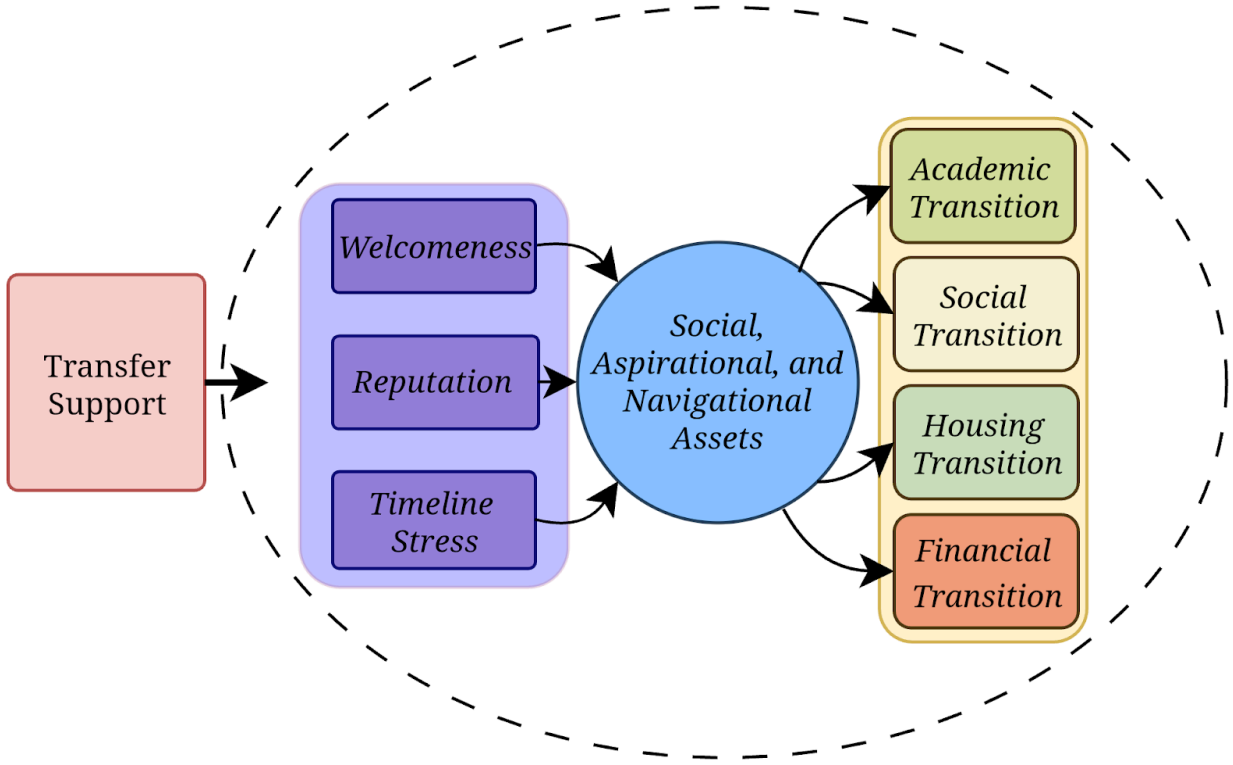
Our *relevant question to investigate* is to substantiate the impact of each transfer student's transition, which is a shared experience across all transfers. In order to *apply a critical lens*, Structural Equation Modeling was considered as a useful quantitative tool which could determine whether or not distributions of experiences also reflect disproportionately impacted qualities of transition for students with various sociodemographic factors and extra-academic responsibilities.

The Current Study

Drawing upon Laanan and Jain's (2016) A New Critical Framework, the present study seeks to test a holistic model of transfer success which can illustrate how for transfer students at UCSB (Figure 1), the perception of high support for transfers may translate into improved reflections of transition success, and whether this relationship can be explained through benefits to students' *Social, Aspirational, and Navigational Assets* (*SANA*).

Figure 1

A priori model of variable relationship structure



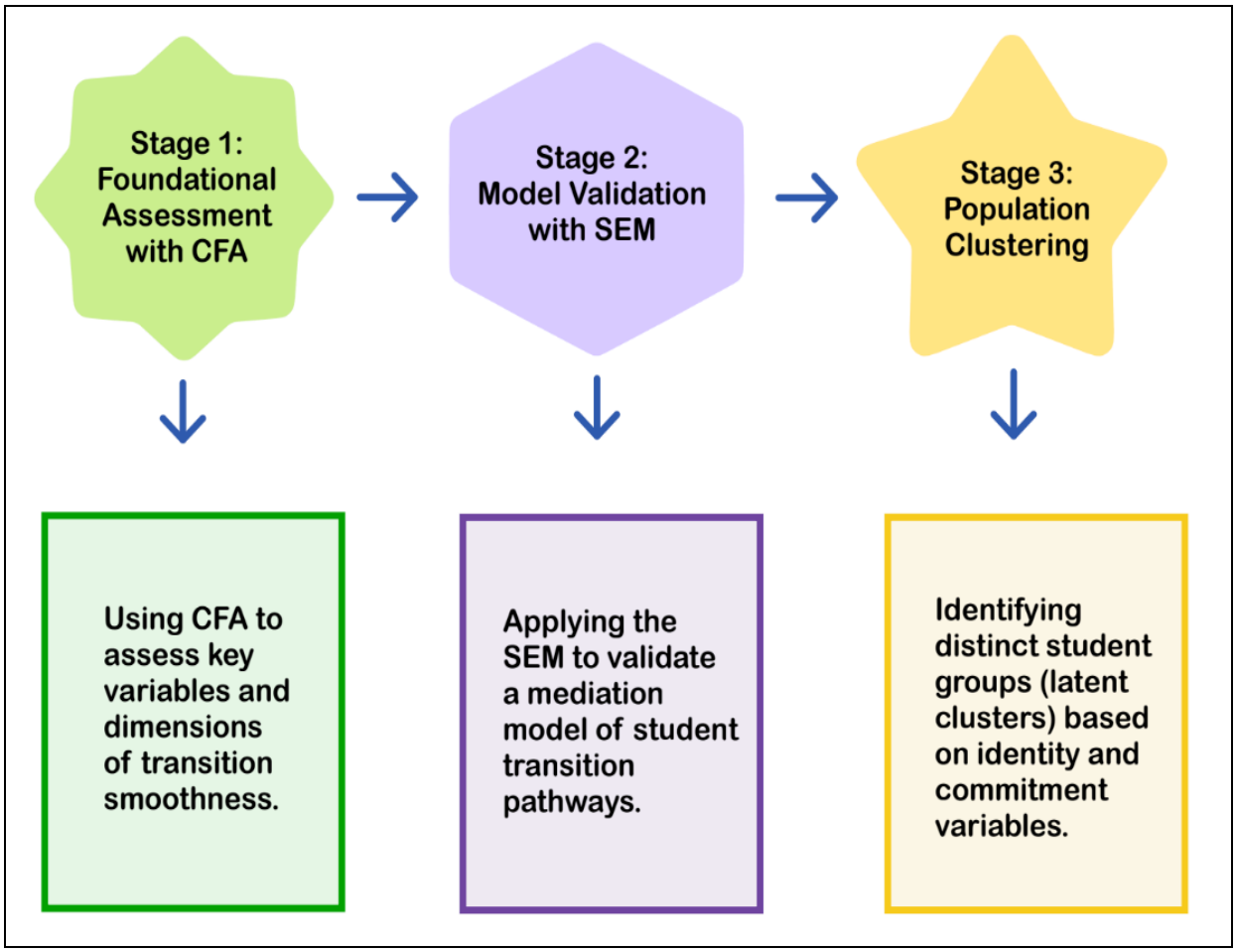
Note. Figure 1 visualizes the hypothesis that Transfer Support will globally moderate the outcomes via serial mediation with constrained loading and global moderation. Global prediction by Level of Support is represented by a black arrow, while the moderation effect of the clusters are represented by dotted ellipsis; Figure 1.

Method

Design

This study employed a quantitative survey to investigate the efficacy of Transfer Receptivity at a single university, and to determine if institutional efforts to foster a receptive culture translate equitably across students. Shown below in Figure 2 are three quantitative stages.

Figure 2



To better understand how experience of Transfer Support can be measured from students' reflections we used SEM to model the potential relationships between the constructs outlined in Figure 1. Multiple Indicators of Transfer Receptivity (Lanaan & Jain, 2016) were added to the model as first-order mediators (preceding SANA), hypothesized to explain the relationship

between perceived level of support and students' assets (SANA). This serial mediation model successfully converged, explaining how perceptions of support predict smoother transitions (outcome measures). Then global *moderation* by population clusters of the effects of Transfer Support was tested to determine whether or not students with sociodemographic characteristics or extra-academic commitments report systematically impacted transitions.

Quantitative analysis was performed using Mplus (Version 9) and SPSS (Version 29). To address missing data, Full Information Maximum Likelihood (FIML) was employed to produce unbiased estimates and maximize statistical power. Maximum likelihood with robust standard errors were employed for all stages.

Stage One: Foundational Assessment with CFA

In the first stage, i) the latent variable of SANA, ii) the reliability of the items which compose the averaged scales within SANA, and iii) the four different dimensions of transition smoothness were assessed with fit indexes, effect significance/size using Confirmatory Factor Analysis (CFA; Table 1).

The measurement phase consisted of six Confirmatory Factor Analyses (CFAs). First, four independent CFAs were conducted to validate the individual constructs of academic self-efficacy, sense of belonging, resilience, and navigational confidence with our student sample. Following individual validation, a higher-order CFA was conducted to test the viability of the latent construct *SANA*. To manage model complexity and maintain parameter-to-case ratio, item parceling via averages of scales was utilized. Finally, the associations between the four transition dimensions were tested. Model fit was rigorously assessed using a multi-index approach. Following recommendations by Hu and Bentler (1999), the following fit indices and

thresholds were employed: Chi-square (χ^2) overall model fit; RMSEA; CFI and TLI; SRMR; Parameter-to-case ratio.

Table 1

Descriptives of Transfer Student Variables Used for in LCA

Variables	Sample Statistics	
	n	%
Count	569	100.0
Female	323	57.0
Male	201	35.0
Non-male	368	65.0
Non-binary	11	1.9
Different Identity	6	1.1
Identified as Transgender	15	2.6
First-generation	212	37.2
Low-income or working class (LIWC)	245	43.0
UC Definition Underrepresented Minority Student* (URM)	168	29.5
Responsibility - Work	291	51.1
Responsibility - Caring for a child/children	18	3.2
Responsibility - Assisting other family members	125	22.0
Responsibility - Taking care of other household duties	226	40.0
Responsibility - Contributing to family's finances	84	14.8
I need to graduate in two years.	364	64.0

Note. University of California defines Underrepresented Minority Student as “Black, Hispanic/Latino, or Indigenous American/Alaskan Native”

Stage Two: Model Validation with SEM

In the second stage we validated a sequential mediation model using Structural Equation Modeling (SEM) and found evidence of mediation between level of support and transition smoothness types (4 outcomes measures): academic, social, housing, and financial.

In the second stage, SEM was employed to explore serial mediation pathways. This stage transitions from the measurement phase to the structural phase, examining the direct and indirect relationships between *perceived level of support for transfers* and *transition smoothness*.

Model fit for mediation model was assessed using parameter-to-case ratio, Chi-square overall model fit testing, RMSEA, CFI, TLI, and SRMR (see Results below). To ensure the robustness of the standard errors and account for the potential non-normality of the indirect effect's sampling distribution, bias-corrected bootstrapping with 5,000 resamples was employed. 95% confidence intervals (CIs) determine the statistical significance of each pathway; an effect is considered significant if the confidence interval does not contain zero.

Beyond determining statistical significance, the analysis includes a comprehensive effect size decomposition to evaluate the relative strength of the hypothesized pathways. Computed effect sizes will be presented in the appendix to compare relative proportional sizes of effects (for example, illustrating the proportion of the indirect effect which is explained through the transfer receptivity indicators mechanism alone).

Stage: Three Population Clustering

In order to test the global moderation of the construct of Transfer Support outlined in Figure 1 we tested if the effects in the mediation pathways differ for groups of marginalized transfer students.

Latent class enumeration was employed to discern if population clusters were indicated. To avoid local maxima, models were estimated using 1,000 random sets of starting values with 250 optimizations in the final stage. The Bootstrapped Likelihood Ratio Test (BLRT) was not conducted in order to maintain MLR estimation, making the Lo-Mendell-Rubin Likelihood Ratio Test (LMR-LRT) and the Bayesian Information Criterion (BIC) the devices used to determine *k* clusters. Given a solution which was not one-class, the Bolck-Croon-Hagenaars (BCH) three-step method was employed to extract *k* cluster weights for each student, so that posterior probabilities could be used to 1) identify the clusters, and 2) train observations based on weights using mixture modeling to conduct a moderation analysis which compares each cluster's differences in serial mediation effects from one another.

Measurement invariance was imposed on the latent variable, *SANA*, by constraining factor loadings and item intercepts to be equal across all clusters to establish scalar invariance. This specification ensures a universal metric for student assets, meaning that any observed variations in indicator values are attributed to substantive differences in latent experiences (support/facilitation of *SANA*) rather than differential item functioning . By stabilizing the measurement model in this way, the mathematical burden of explaining cluster-level variance is shifted from indicator-level to structural paths. As a result, differences that might otherwise appear in equality tests for indicator intercepts (Appendix Table A4) are instead manifested within the effect to and from *SANA*. This effectively centers institutional accountability, as it suggests that any variation in the manifestation of these student assets is a direct result of structural or environmental effects, represented by the paths from levels of support and transfer receptivity indicators.

In contrast, first-order mediators were not subjected to these constraints. Transfer receptivity indicator variables represent external environmental perceptions rather than internal student assets; their intercepts were allowed to vary freely to capture the uneven institutional receptivity experienced by different student clusters.

Participants

All study procedures were approved by the University Institutional Review Board (IRB # 8-26-0042). Quantitative data were drawn from the Spring 2024 administration of the UCSB Transfer Climate Survey. The final sample consisted of 570 consenting transfer students recruited via email and a banner on Canvas, with participation incentivized through a random lottery for gift cards. The survey's content consisted of attitudes and campus climate-related questions, access and engagement, and demographic questions. Students' transfer type was not recorded in this survey data, and so our data represents students in both vertical (from 2 year institutions) and lateral transfer pathways (from 4 year institutions).

Participant demographics (e.g. first generation status) and several transfer-relevant factors (e.g. extra-academic responsibilities) were considered in combination; in order to categorize transfer student intersectionality, we employed latent class analysis (LCA; Table 1). Considering that the LCA analysis yielded significant categories then it was ideal to run SEM mixture modeling in this third stage. Mixture modeling allowed for moderation analysis that took into account the potential differential effects of moderation in the *k*-clusters.

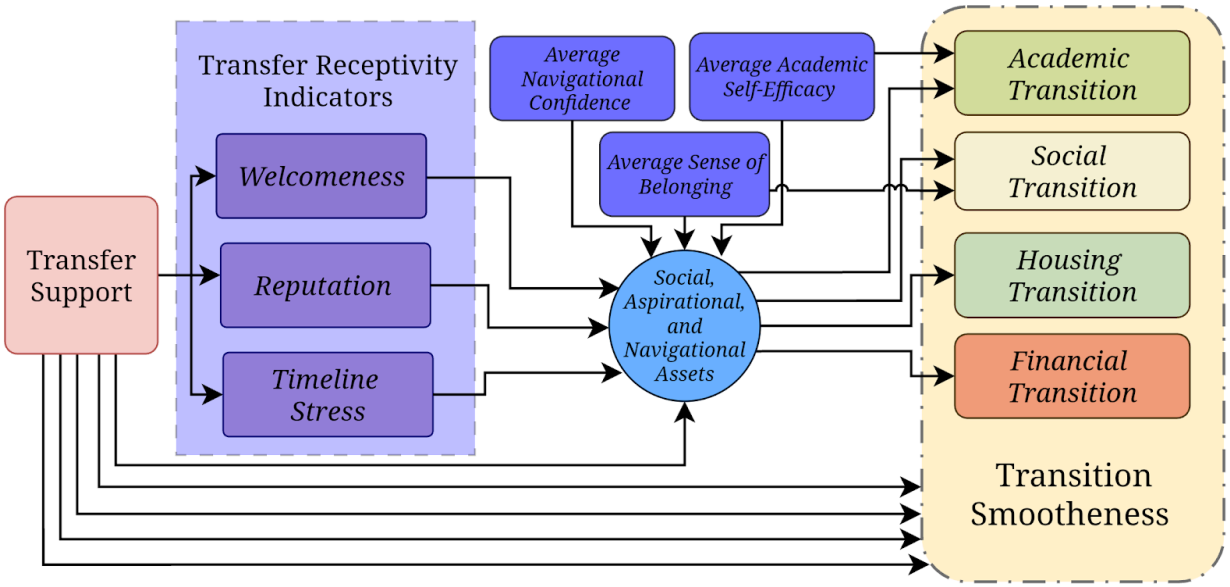
Measures

The measures were selected to operationalize a hypothesized a priori serial mediation model (see Figure 3 for operationalized constructs) guided by Power to The Transfer (2020) and

A New Critical Framework (2016). The direct path tests Transfer Support which was operationalized as a score between 0-100 measuring student perception of institutional support for transfer students as the predictor of four types of transition smoothness.The indirect path tests the second-stage hypothesis of mediation through a sequential process: first, by indicators of transfer receptivity, and subsequently by bolstering the student's social, aspirational, and navigational assets (SANA; Figure 3). Academic self-efficacy was constrained to predict academic transition and sense of belonging was constrained to predict social transition.

Figure 3

Model of serial mediation specifying covariance and constrained loading.



Note. The gray dotted line box around Transfer Receptivity Indicators specifies the variables used to define that construct. The dotted line that highlights the 4 types of transition smoothness that were considered in the analysis and presented as effects on 4 outcomes.

Table 2

Variable Category	Variable	*M*	*SD*	No. of Items	Scale and Measurement Level
Transfer Support	Perceived Institutional Support	66.7	25.4	1	Continuous (0-100)
Transfer Receptivity Indicators	Reputation for transfers on campus	3.59	.97	1	Ordinal (1 – SD, 7 – SA)
	Welcomeness for transfers on campus	4.74	1.36	1	Ordinal (1 – Not at all; 5 – A great deal)
	Timeline Stress	2.93	1.30	1	Reversed ordinal (1 - A great deal; 5 - None at all)
Social, Aspirational, and Navigational Assets	Average Academic Self-Efficacy	4.14	.62	8	Continuous (1-7, scale mean)
	Average Sense of Belonging	5.20	1.40	3	Continuous (1-7, scale mean)
	Average Sense of Resilience	3.67	.61	6	Continuous (1 – SD; 6 – SA)
	Average Navigation Capital	5.00	1.32	3	Continuous (1-7 scale mean)
Transition Smoothness	Academic Transition	4.40	1.81	1	Ordinal (1 – SD, 7 – SA)
	Social Transition	4.43	1.85	1	Ordinal (1 – SD, 7 – SA)
	Housing Transition	4.80	1.77	1	Ordinal (1 – SD, 7 – SA)
	Financial Transition	4.58	1.77	1	Ordinal (1 – SD, 7 – SA)

Results

Stage One: Foundational Assessment with CFA

Table 3

Variable	Standardized Results		
	β	Confidence Intervals	*S.E.*
Navigational Confidence at the University			
NAV1 - I understand where to go to access resources I need.	.776	[0.725, 0.824]	.030
NAV2 - I am confident in navigating academic processes.	.910	[0.871, 0.947]	.023
NAV3 - I am confident in navigating student social networks.	.733	[0.678, 0.786]	.033
Social, Aspirational, and Navigational Assets (SANA)			
Average *Academic Self Efficacy*	.557	[0.483, 0.626]	.044
Average *Sense of Belonging*	.726	[0.638, 0.810]	.052
Average *Navigational Confidence*	.698	[0.620, 0.775]	.047
Average *Sense of Resilience*	.147	[0.056, 0.234]	.054
SANA^{I} (re-specification excluding Sense of Resilience)			
Average *Academic Self Efficacy*	.560	[0.487, 0.629]	.044
Average *Sense of Belonging*	.737	[0.650, 0.821]	.052
Average *Navigational Confidence*	.686	[0.612, 0.758]	.045
Transition Smoothness			
Academic Transition (Y_{acad})	.538	[0.459, 0.615]	.047
Social Transition (Y_{soc})	.648	[0.574, 0.718]	.043
Housing Transition (Y_{hous})	.727	[0.660, 0.790]	.040
Financial Transition (Y_{fin})	.520	[0.434, 0.596]	.049

Note. Fit indexes reported in Appendix Table A1. *SANA*'s initial CFA was adequate but due to a disproportionately smaller R^2 (.022), *Sense of Resilience* was removed from the latent cluster.

Preliminary analysis confirmed the data's integrity and normality (see Table 1; Table A1; Table A2). Furthermore, bootstrapped confirmatory factor analysis (CFA) validated the measurement model (See Table 3 above), establishing the *SANA* latent factor as an adequately reliable construct via McDonald's Omega (ω = .70, 95% CI [.650, .742]). CFA also validated the scales for *academic self-efficacy* (ω = .86, 95% CI [.847, .879]), *sense of belonging* (ω = .92, 95% CI [.906, .934]), *resilience* (ω = .77, 95% CI [.721, .806]), and *sense of navigational confidence* (ω = .85, 95% CI [.822, .871]), as ranging from 'adequately' to 'precisely' reliable. The CFA for Transition Smoothness dimensions showed modest latent strength between items, suggesting a shared higher construct (Table 3).

Stage Two: Model Validation with SEM

Structural regression validated the hypothesized serial chain of *transfer receptiveness indicators* on *SANA*. Specifically, the bootstrapped model showed evidence of mediation across all four outcomes. While the direct effect of Transfer Support was found to be insignificant for all four transition variables, the overall indirect effect of Transfer Receptivity Indicators and *SANA* was consistently positive and

Table 4
Serial Mediation Total Effects

Path	Standardized Effects			
	β	*SE*	*p*	95% CI
Y_{acad}	.358	.04	.000	[.292, .425]
Y_{soc}	.353	.04	.000	[.286, .416]
Y_{hous}	.247	.04	.000	[.175, .316]
Y_{fin}	.162	.05	.000	[.087, .237]

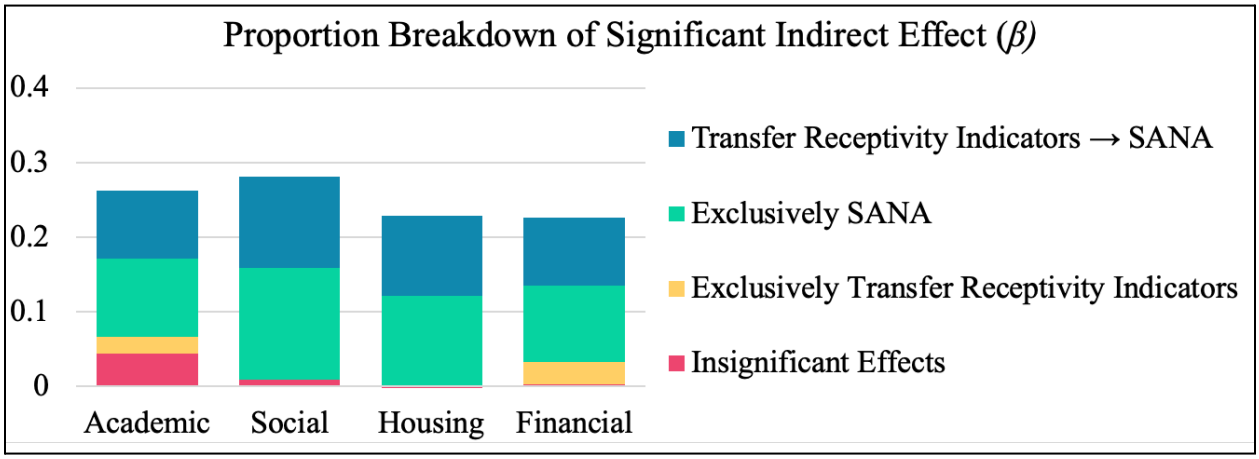
Table 5
Serial Mediation Overall Indirect Effects

Path	Standardized Effects			
	β	*SE*	*p*	95% CI
Y_{acad}	.262	.04	.000	[.188, .339]
Y_{soc}	.281	.05	.000	[.203, .364]
Y_{hous}	.207	.05	.000	[.124, .292]
Y_{fin}	.225	.06	.000	[.137, .317]

significant, as were the total effects across all four outcomes (See Tables 4-5; Appendix Tables A2.1-A2.4).

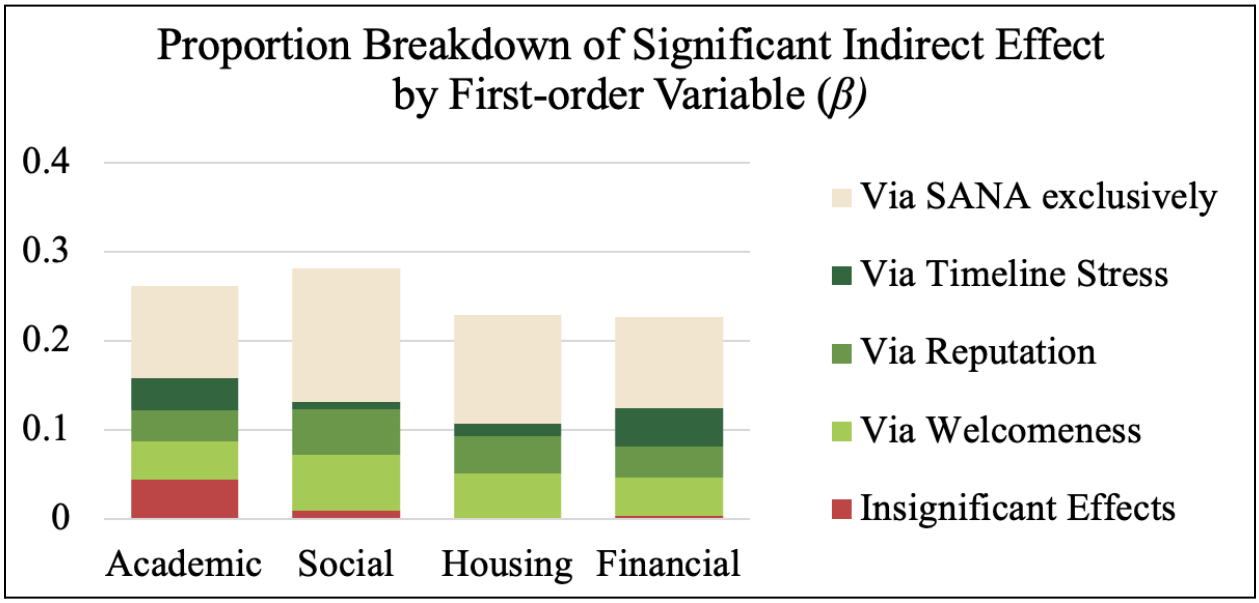
The fit indexes were as follows: Chi-square test was significant, $\chi^2(18) = 84.638$, $p < 0.001$ which is typical among large samples; a parameter-to-case ratio of 9.71, RMSEA of 0.082 (95% CI [.065, .100]), and a TLI of 0.870 indicated mediocre-to-adequate fit; a CFI of .958 and SRMR of .032 demonstrated a just-identified or "saturated" model (Kline, 2005).

Figure 5



Results indicated that the overall indirect pathway significantly predicted all four transition outcomes (see Figure 5) through two serial mechanisms: i) via indicating transfer receptivity, and ii) via supporting students' *SANA*. The distribution of indirect specific effects is shown to highlight significant first-order vs. second-order vs. sequential order effect proportion (Figure 5) as well as comparison of between transfer receptivity indicator specific paths (Figure 6). For full effects distribution see Appendix Tables A2.1-A2.4. Support was found that at UCSB, Transfer Support shows evidence of mediation by Transfer Receptivity Indicators and students' Social, Aspirational, and Navigational Assets.

Figure 6



Stage Three: Population Clustering

To find latent clusters, class enumeration was employed; a four-class solution was selected as the optimal model based on lower BIC values and significant LMR-LRT results (see Table A4). Table 6 below identifies each cluster by variables which were observed as constants (posterior probabilities of 0 and 1), and thus defined clusters.

Table 6

Measure	Cluster 1	Cluster 2	Cluster 3	Cluster 4
Proportion	39%	30%	20%	11%
Constant Variables	Woman Not LIWC Not URM	Non-Woman Not LIWC Not URM	Woman LIWC URM Status	Non-Woman LIWC URM Status

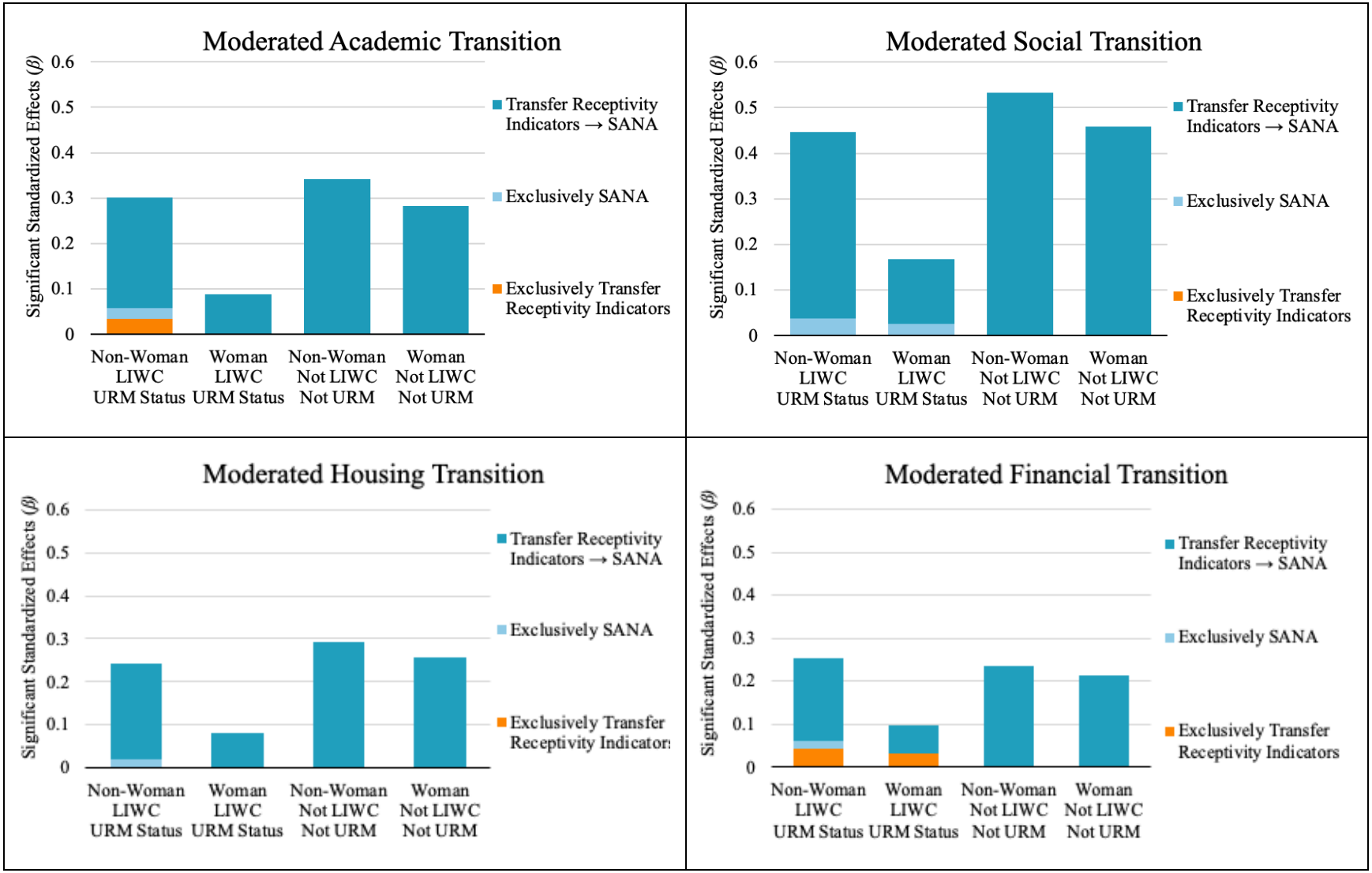
Note. LIWC=low-income or working class. URM=Underrepresented Minority UC definition

Additional factors which were significantly different in membership between clusters (omnibus difference testing via Wald Chi-Square) are identified in Appendix Table A5. The

finalized four-cluster interpretation was integrated into the structural mediation model, to investigate differences between clusters. Moderated serial mediation using weighted membership (BCH method) revealed some significantly different effects across latent clusters (see Figure 7; Appendix Tables A5-A6). R^2 for dependent variables split by cluster are reported in Appendix Figure A1.

The fit indexes were as follows: the Akaike-Information Criterion (AIC) was 18700.998; the Bayesian-Information Criterion (BIC) was 19167.252; the sample-size adjusted BIC (aBIC) was 18824.410; the H0 Log Likelihood was -9242.500, and; the parameter-to-case-ratio was 5.28.

Figure 7


Moderated Academic Transition
Significant Standardized Effects (β)
0.6
0.5
0.4
0.3
0.2
0.1
0
Non-Woman LIWC URM Status
Woman LIWC URM Status
Non-Woman Not LIWC Not URM
Woman Not LIWC Not URM
Transfer Receptivity Indicators → SANA
Exclusively SANA
Exclusively Transfer Receptivity Indicators
Moderated Social Transition
Significant Standardized Effects (β)
0.6
0.5
0.4
0.3
0.2
0.1
0
Non-Woman LIWC URM Status
Woman LIWC URM Status
Non-Woman Not LIWC Not URM
Woman Not LIWC Not URM
Transfer Receptivity Indicators → SANA
Exclusively SANA
Exclusively Transfer Receptivity Indicators
Moderated Housing Transition
Significant Standardized Effects (β)
0.6
0.5
0.4
0.3
0.2
0.1
0
Non-Woman LIWC URM Status
Woman LIWC URM Status
Non-Woman Not LIWC Not URM
Woman Not LIWC Not URM
Transfer Receptivity Indicators → SANA
Exclusively SANA
Exclusively Transfer Receptivity Indicators
Moderated Financial Transition
Significant Standardized Effects (β)
0.6
0.5
0.4
0.3
0.2
0.1
0
Non-Woman LIWC URM Status
Woman LIWC URM Status
Non-Woman Not LIWC Not URM
Woman Not LIWC Not URM
Transfer Receptivity Indicators → SANA
Exclusively SANA
Exclusively Transfer Receptivity Indicators

Discussion

Stage one of the analysis provided support for the construct of SANA, that includes ASE, belonging, and navigational capital, however the model that best explained the data did not include the resilience scale items from the survey. The inclusion of specific student assets into the SEM model (Stage 2) of student success is novel, and we found that SANA is a significant mediator for all four transition outcomes (academic, financial, housing, and financial). Further SANA was a significant mediator exclusive of other pathways specifically for both clusters of students that identify as URM and come from LIWC backgrounds, suggesting SANA assets might be most important for these specific groups. Further, the Stage 2 SEM model supported the conclusion that the effect of Transfer Support was modeled well via two mediational mechanisms, (1) Transfer Receptivity Indicators and (2) supporting students SANA. Furthermore, there was support that these mediators worked sequentially, where Transfer Receptivity Indicators predicted SANA, and this was a fair amount of the overall indirect effect. The effects also indicated that there is still a sizable proportion of the indirect effect where Transfer Support effects serially affect SANA which then positively affect all 4 transition outcomes, but does not do so via a path through the Transfer Receptivity Indicators of welcome for transfers, reputation for transfers on campus, and level of timeline stress. This suggests that perceptions of support even without considering Transfer Receptivity Indicators demonstrate benefits for students' assets and subsequent transition success.

The LCA analysis (Stage 3) showed support for a four-cluster grouping of our transfer population based on three characteristics: 1) woman/non-woman identification, and 2) both LIWC *and* URM. When considering the serial mediation model, differences arose between clusters in regards to significant indirect pathways. For the Woman LIWC URM group,

perceptions of welcome on campus did not create significant pathways, suggesting that for this group, their perceptions of welcomeness on campus were not relevant to their transition smoothness for any of the 4 categories (Academic, Social, Housing, & Financial). Another finding is that for the Non-LIWC Non-URM groups, transfer support does not significantly predict transition smoothness through exclusively SANA- suggesting that for these groups transfer receptivity indicators are necessary to translate perceptions of support for transfers on campus into smoother perceived transitions. Timeline stress was a factor for the academic and financial transition for the non-Woman, LIWC, & URM students, and this group was also one of the only clusters to show a path predicting positive transition smoothness that was only via SANA without serial mediation.

The variables used in this study's model are both asset and student-centered variables. By measuring these novel variables we learn something new about the students that is both valuable to educators and students. By measuring the university outputs efforts to be transfer receptive, to be exceptionally prioritizing of transfer students we were able to elevate student perceptions as important, and our results suggest such efforts result in increases in students perceptions of increases in transition smoothness. Theories of transfer receptivity speak often about how important it is to support transfer students in complex ways to support a diverse array of needs, however the extant literature has few examples that center the student experience when considering this idea. The current study sought to centralize SANA as a construct because it argues that the driving force behind students' well-being and continued success is grounded within the student and their abilities. The model presented in this paper suggests that SANA is a reliable mediator of smoothness of transition (all 4 kinds) for all clusters of students (to varying degrees). . Previous literature and the current results provide evidence that universities' efforts to

support transfer receptivity and to promote support that is transfer-specific are mechanisms that can support transfer students successful transitions to the 4 year university.

The results support the constructs described in Power to the Transfer and adds important methodologies to the literature by identifying analysis techniques to understand student experiences and study how to better support transfer students. Importantly the data suggests that students can be supported through the support of their own assets. This is interesting because asset-based research can be further integrated into assessment of transfer students and transfer student success. The results suggest that transfer receptivity is a construct which is relevant for transfer students' transitions, and provide a way to consider transfer receptivity outcomes past traditional institutional outcomes (e.g GPA). This is relevant to A New Critical Framework (Lanaan & Jain, 2016) because we were able to advance critical lenses, by making use of asset-based theories such as community cultural wealth and transfer student capital.

Our data suggest that institutions seeking to facilitate transfer receptivity can do so by: (i) being intentionally welcoming, (ii) creating a strong positive reputation for transfers, (iii) communicating with them to reduce their timeline stress, and (iv) supporting programs and activities that increase efficacy, belonging, & navigational confidence (SANA), as all of these factors had positive effects on student's transitions to the university. Further, the cluster moderation analysis suggests that promoting SANA is important for all students, but is most important for students who are from LIWC backgrounds and URM, so programming aimed at these students should necessarily include things that can positively impact efficacy, belonging, and navigational confidence. In the classroom, recommendations for instructors include being more aware and interactive with the transfers in the classroom in order to make them feel more welcome and to consider their language with respect to helping students maintain a positive

reputation for transfers and reducing timeline stress. Specific recommendations for support services are to consider both the general effects (supporting the four things listed above) while considering some of the more nuanced effects related to the latent class analysis, which suggests some factors may be more important for specific populations when the goal is to positively impact transition smoothness outcomes. At the level of administration and institution this data provide concrete examples of what to measure and to focus on with respect to student-led experiences of transfer receptivity. Further the data support the assertion that transfer receptivity is positively related to smooth transitions for transfers, a goal that is important for student success.

Limitations & Future Directions

There are a few things to consider with respect to limitations in the current study. It could be argued that perceived transition smoothness may not directly equate to actual transition quality, so this would be something to explore with qualitative data regarding transfer student experiences including from those after they graduate. There is small potential for bias since the types of students who are more likely to answer surveys for their university may be generally more likely to indicate support for their university, and have higher ratings of welcome/reputation/timeline stress. Our novel inclusion of explicit student assets is something that would be interesting to follow up with in a few ways, one would be to look at these past a single institutions context, as well, and considering a mixed methods approach to delve into some of the ways that these constructs might be actually contributing to transition smoothness. Further the LCA indicated that another future direction is to consider if the pathways between these variables is different for different student populations, to allow for more targeted and tailored transfer student support recommendations.

Conclusion

Overall this study successfully modeled a student centered perspective on various aspects of transfer receptivity, student assets, and their contributions to transfer student's transition smoothness to a single 4 year university. Results support Transfer receptivity as a construct, and show that specific aspects that were important in our campus context were welcome, positive reputation for transfers, and reducing timeline stress. This is valuable because it provides the administration and support services with specific goals when considering how to maintain and raise the transfer receptivity perception for students on our campus. Further, the novel construct of student assets (SANA) are an important addition to this body of literature, and similarly provide specific factors to target when considering how to support transfers. The data suggest that providing ways to build efficacy, belonging, navigational confidence are an essential part of transfer student success. Further, our LCA suggested that SANA might be even more important for transfers who are from both low income and historically marginalized backgrounds. Given this, our goal of creating equitable higher educational spaces, can be served by creating transfer receptive campuses that provide opportunities for students to build their assets (SANA).

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Appendix

Table A1

Variable	Skew	Kurtosis	Correlation											
			1	2	3	4	5	6	7	8	9	10	11	12
Transfer Support	-0.503	-0.510	--											
Welcome	-0.207	-0.431	.705	--										
Reputation	-0.241	-0.218	.351	.377	--									
Timeline Stress	-0.104	-1.111	.146	.146	.125	--								
Avg. Academic Self-Efficacy	-0.727	0.479	.207	.213	.203	.233	--							
Avg. Sense of Belonging	-0.725	0.164	.383	.396	.356	.233	.411	--						
Avg. Navigational Capital	-0.710	0.377	.414	.369	.325	.239	.383	.505	--					
Avg. Sense of Resiliency	1.322	5.096	.109	.106	.049	.007	.043	.083	.151	--				
Academic Transition	-0.338	-1.040	.346	.335	.284	.323	.385	.361	.398	.098	--			
Social Transition	-0.319	-1.006	.358	.331	.244	.188	.281	.547	.448	.125	.387	--		
Housing Transition	-0.68	-0.534	.246	.225	.192	.235	.228	.282	.374	.048	.352	.480	--	
Financial Transition	-0.482	-0.750	.162	.194	.176	.320	.222	.221	.345	.105	.306	.279	.407	--

Table A2

CFA Fit Indexes and Reliability (McDonald's ω)

Item	R^2	*Reliability*			Fit Indexes					
		ω	*LL*	*UL*	χ^2	RMSEA	CFI	TLI	SRMR	Case to Parameter Ratio
Academic Self-Efficacy		.86	.847	.879	144.388***	.105	.929	.901	.044	23.8
ase1	.43***									
ase2	.37***									
ase3	.43***									
ase4	.34***									
ase5	.61***									
ase6	.63***									
ase7	.35***									
ase8	.47***									
Navigational Confidence		.85	.822	.871	0	0	1	1	0	63.3
nav1	.60***									
nav2	.83***									
nav3	.54***									
Sense of Belonging		.92	.906	.934	0	0	1	1	0	63.3
belong1	.69***									
belong2	.92***									
belong3	.79***									
Sense of Resilience		.765	.721	.806	399.291***	.276	.682	.471	.137	31.7
resil1	.24**									
resil2	.43***									
resil3	.16*									
resil4	.698***									
resil5	.038									

Table A2

CFA Fit Indexes and Reliability (McDonald's ω)

Item	R^2	Reliability			Fit Indexes					
		ω	*LL*	*UL*	χ^2	RMSEA	CFI	TLI	SRMR	Case to Parameter Ratio
resil6	.684***									
SANA		.7	.65	.742	4.323	.05	.992	.977	.017	47.5
Avg. Academic Self-Efficacy	.310***									
Avg. Sense of Belonging	.526***									
Avg. Navigational Capital	.487***									
Avg. Sense of Resilience	.022									
SANA[1]		.71	.664	.761	0	0	1	1	0	63.3
Avg. Academic Self-Efficacy	.313***									
Avg. Sense of Belonging	.543***									
Avg. Navigational Capital	.470***									
Transition Smoothness		.70	.664	.739	11.98**	.094	.974	.922	.024	47.5
acadtran	.290***									
soctran	.420***									
houstran	.471***									
fintran	.730***									

Note. *RMSEA* = Root Mean Square Error of Approximation. *CFI* = Comparative Fit Index. *TLI* = Tucker-Lewis Index. *SRMR* = Standardized Root Mean Square Residual

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

Table A3.1

Evidence for Serial Mediation (Academic Transition Smoothness)

Effect	Standardized Results		
	β	*S.E.*	95% CI
Total Effect	.358	.041	[.292, .425]
Direct Effect of *Perceived level of support as a transfer (X) → My academic transition to UCSB was smooth (Y_{acad})*	.096	.060	[-.019, .157]
Total Indirect Effect $X \rightarrow M \rightarrow (Y_{acad})$	.262	.046	[.188, .339]
$M_1 \rightarrow Y_{acad}$	.067	--	--
Via *UCSB is welcoming for transfers ($M_{1welcome}$)*	.022	.040	[-.045, .088]
Via *Transfers have a good reputation on campus ($M_{1reputat}$)*	.022	.016	[-.004, .048]
Via *Level of timeline stress ($M_{1tlstress}$)*	.023	.010	[.009, .040]
Pathways Through *Social, Aspirational, Navigational Resources* (excluding *Academic Self-Efficacy) (M_2)*	.149	--	--
$M_2 \rightarrow Y_{acad}$ (second-order mediation only)	.079	.030	[.035, .131]
$M_1 \rightarrow M_2 \rightarrow Y_{acad}$	.070	--	--
Via $M_{1welcome} \rightarrow M_2 \rightarrow Y_{acad}$	.033	.016	[.011, .062]
Via $M_{1reputat} \rightarrow M_2 \rightarrow Y_{acad}$	.027	.010	[.012, .044]
Via $M_{1tlstress} \rightarrow M_2 \rightarrow Y_{acad}$	.010	.005	[.003, .019]
Unique Variance from *Academic Self-Efficacy ($M_{2(ase)}$)*	.046	--	--
$M_{2(ase)} \rightarrow Y_{acad}$ (second-order mediation only)	.025	.009	[.012, .040]
$M_1 \rightarrow M_{2(ase)} \rightarrow Y_{acad}$	.021	--	--
Via $M_{1welcome} \rightarrow M_{2(ase)} \rightarrow Y_{acad}$	.010	.005	[.004, .019]
Via $M_{1reputat} \rightarrow M_{2(ase)} \rightarrow Y_{acad}$	.008	.003	[.004, .014]
Via $M_{1tlstress} \rightarrow M_{2(ase)} \rightarrow Y_{acad}$	.003	.001	[.001, .006]

Note. Effects without significance statistics are computed sums of effects, and may be useful for considering proportional sizes of effects.

Table A3.2

Evidence for Serial Mediation (Social Transition Smoothness)

Effect	Standardized Results		
	β	*S.E.*	95% CI
Total Effect	.353	.039	[.286, .416]
Direct Effect of *Perceived level of support as a transfer (X) → My social transition to UCSB was smooth (Y_{soc})*	.072	.053	[-.059, .135]
Total Indirect Effect $X \rightarrow M \rightarrow (Y_{soc})$	.281	.049	[.203, .364]
$M_1 \rightarrow Y_{soc}$	-.002	--	--
Via *UCSB is welcoming for transfers ($M_{1welcome}$)*	.009	.037	[-.052, .070]
Via *Transfers have a good reputation on campus ($M_{1reputat}$)*	-.011	.015	[-.036, .013]
Via *Level of timeline stress ($M_{1tlstress}$)*	0	.006	[-.010, .011]
Pathways Through *Social, Aspirational, Navigational Resources* (excluding *Sense of Belonging) (M_2)*	.166	--	--
$M_2 \rightarrow Y_{soc}$ (second-order mediation only)	.088	.037	[.035, .154]
$M_1 \rightarrow M_2 \rightarrow Y_{soc}$	.078	--	--
Via $M_{1welcome} \rightarrow M_2 \rightarrow Y_{soc}$	.037	.018	[.011, .071]
Via $M_{1reputat} \rightarrow M_2 \rightarrow Y_{soc}$	.030	.012	[.012, .050]
Via $M_{1tlstress} \rightarrow M_2 \rightarrow Y_{soc}$	.011	.006	[.004, .022]
Unique Variance from *Sense of Belonging ($M_{2(belong)}$)*	'.177	--	--
$M_{2(ase)} \rightarrow Y_{soc}$ (second-order mediation only)	.062	.019	[.034, .096]
$M_1 \rightarrow M_{2(belong)} \rightarrow Y_{soc}$	.055	--	--
Via $M_{1welcome} \rightarrow M_{2(belong)} \rightarrow Y_{soc}$	.026	.012	[.010, .047]
Via $M_{1reputat} \rightarrow M_{2(belong)} \rightarrow Y_{soc}$	.021	.007	[.012, .033]
Via $M_{1tlstress} \rightarrow M_{2(belong)} \rightarrow Y_{soc}$	.008	.003	[.003, .014]

Note. Effects without significance statistics are computed sums of effects, and may be useful for considering proportional sizes of effects.

Table A3.3

Evidence for Serial Mediation (Housing Transition Smoothness)

Effect	Standardized Results		
	β	*S.E.*	95% CI
Total Effect	.247	0.04	[.175, .316]
Direct Effect of *Perceived level of support as a transfer (X)* → *My social transition to UCSB was smooth* (Y_{hous})	.040	.059	[-.059, .135]
Total Indirect Effect $X \rightarrow M \rightarrow (Y_{hous})$	.207	.051	[.124, .292]
$M_1 \rightarrow Y_{hous}$	-.024	--	--
Via *UCSB is welcoming for transfers* ($M_{1welcome}$)	-.029	.042	[-.099, .040]
Via *Transfers have a good reputation on campus* ($M_{1reputat}$)	-.007	.012	[-.035, .021]
Via *Level of timeline stress* ($M_{1tlstress}$)	.012	.008	[.001, .027]
Pathways Through *Social, Aspirational, Navigational Resources* (M_2)	.229	--	--
$M_2 \rightarrow Y_{hous}$ (second-order mediation only)	.122	.034	[.070, .183]
$M_1 \rightarrow M_2 \rightarrow Y_{hous}$	.107	--	--
Via $M_{1welcome} \rightarrow M_2 \rightarrow Y_{hous}$	.051	.021	[.021, .087]
Via $M_{1reputat} \rightarrow M_2 \rightarrow Y_{hous}$	.041	.012	[.024, .062]
Via $M_{1tlstress} \rightarrow M_2 \rightarrow Y_{hous}$	.015	.006	[.007, .026]

Note. Effects without significance statistics are computed sums of effects, and may be useful for considering proportional sizes of effects.

Table A3.4

Evidence for Serial Mediation (Financial Transition Smoothness)

Effect	Standardized Results		
	β	*S.E.*	95% CI
Total Effect	.162	.046	[.087, .237]
Direct Effect of *Perceived level of support as a transfer (X)* → *My financial transition to UCSB was smooth* (Y_{fin})	-.063	.067	[-.174, .044]
Total Indirect Effect $X \rightarrow M \rightarrow (Y_{fin})$	.225	.055	[.137, .317]
$M_1 \rightarrow Y_{fin}$		--	--
Via *UCSB is welcoming for transfers* ($M_{1welcome}$)	.005	.042	[-.066, .076]
Via *Transfers have a good reputation on campus* ($M_{1reputat}$)	-.002	.017	[-.030, .026]
Via *Level of timeline stress* ($M_{1tlstress}$)	.030	.011	[.013, .049]
Pathways Through *Social, Aspirational, Navigational Resources* (M_2)		--	--
$M_2 \rightarrow Y_{fin}$ (second-order mediation only)	.102	.032	[.055, .159]
$M_1 \rightarrow M_2 \rightarrow Y_{fin}$		--	--
Via $M_{1welcome} \rightarrow M_2 \rightarrow Y_{fin}$	.043	.018	[.017, .074]
Via $M_{1reputat} \rightarrow M_2 \rightarrow Y_{fin}$	.035	.010	[.020, .053]
Via $M_{1tlstress} \rightarrow M_2 \rightarrow Y_{fin}$	.013	.005	[.005, .022]

Note. Effects without significance statistics are computed sums of effects, and may be useful for considering proportional sizes of effects.

Table A5

Fit Indices for Latent Class Analysis Enumeration

Model Specification	Information Criteria				LMR-LRT (*p*-value)	Entropy	Smallest Class %	Decision
	LL	AIC	BIC	aBIC				
1-Class Solution	-4274.59	8581.19	8650.69	8599.90	--	--	--	Baseline
2-Class Solution	-3879.37	7824.75	7968.09	7863.34	0.000	1.000	31%	Poor Fit
3-Class Solution	-3653.81	7407.62	7624.82	7466.09	0.000	0.975	30%	Supported
4-Class Solution	-3551.55	7237.11	7528.15	7315.45	0.000	0.978	11%	Selected Model
5-Class Solution	-3489.66	7147.31	7512.20	7245.53	0.015	0.974	4%	Over-extracted

Note. N = 570. *LL* = Log-likelihood; AIC = Akaike Information Criterion; BIC = Bayesian Information Criterion; aBIC = Sample-size adjusted BIC; LMR-LRT = Lo-Mendell-Rubin likelihood ratio test; BLRT = Bootstrapped likelihood ratio test.

Table A6

Moderation Identification: Probability of Membership, Dependent Variable Means by Class

Variabley8	Grand Mean	Comparative Index				Wald Chi-Square (χ^2)
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	
Posterior probability likelihood of membership (%)	100%	20.0%	11.1%	39.4%	29.5%	-
Low Income or Working Class	31%	100%	100%	0%	0%	-
First-generation	39%	60.8%	55.1%	31.5%	25.9%	43.985***
Underrepresented Minoritized Student	31%	100%	100%	0%	0%	-
Work Responsibility	51%	54.2%	55.9%	57.4%	38.9%	13.349**
Childcare Responsibility	3%	7.1%	4.7%	1.3%	2.4%	7.607
Assisting Family Responsibility	22%	26.8%	37.1%	16.9%	19.8%	13.267**
Other Household Duties Responsibility	40%	40.1%	44.9%	42.7%	33.5%	3.967
Financial Responsibilities	15%	20.6%	27.7%	11.0%	11.0%	15.133**
Timeline is Two-year Urgent	63%	73.0%	53.5%	64.0%	58.0%	8.708*
Comes From Non-Quarter System	90%	90.3%	85.9%	92.0%	87.8%	2.723
Is 25 Years or Older	21%	19.4%	29.8%	20.7%	20.0%	3.12
Has Stayed at UCSB for Over 2 Years	7%	6.2%	9.4%	6.2%	8.4%	1.261
Identifies as non-male	63%	100.0%	11.1%	100.0%	7.6%	5205.577***
Identifies as a Woman	60%	100.0%	0.0%	100.0%	0.0%	-
Identifies as Non-binary	2%	0.0%	7.9%	0.0%	3.8%	1524.82***
Identifies Under Transgender Umbrella	2%	0.0%	3.2%	0.0%	3.8%	1059.728***

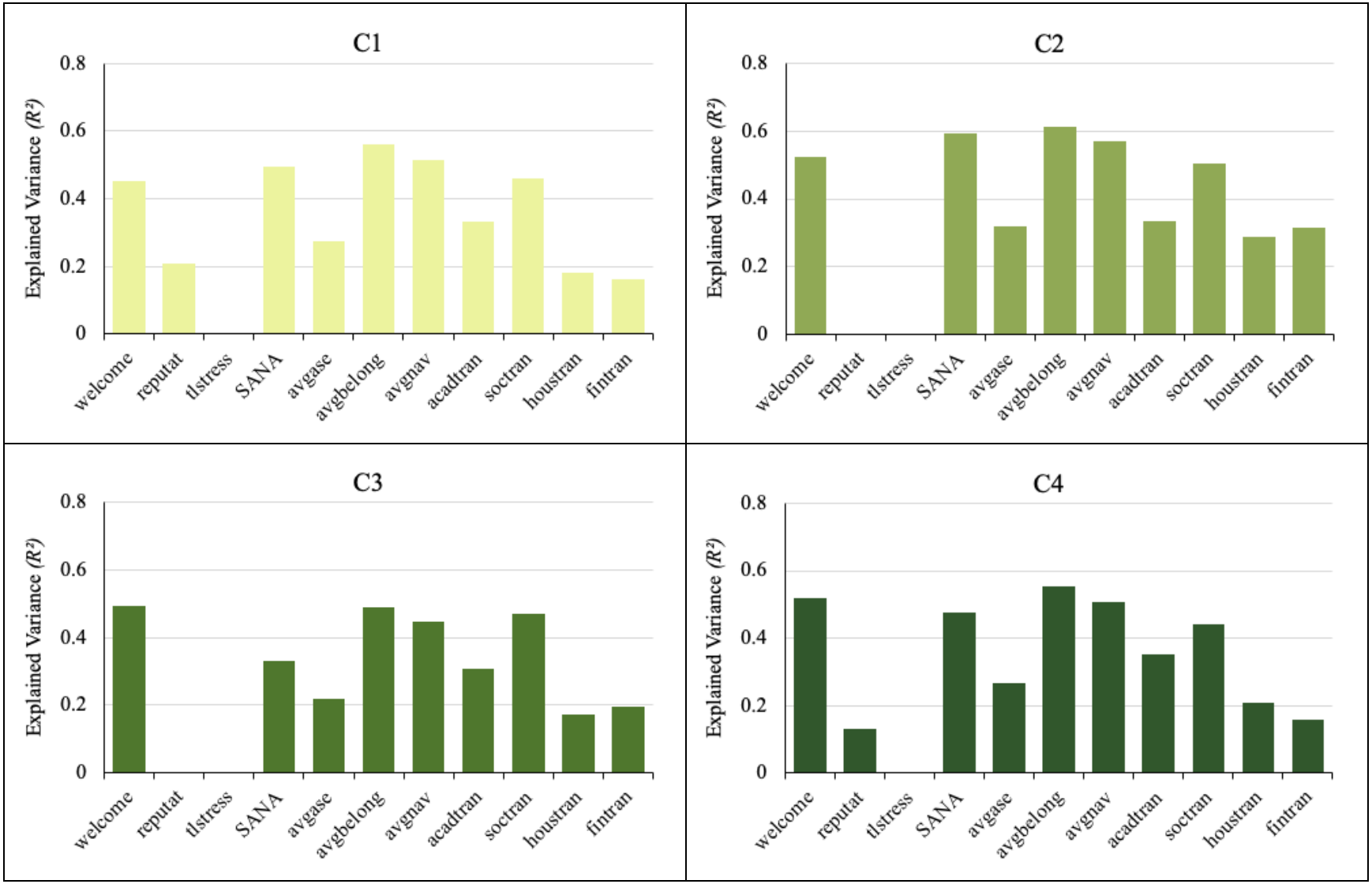
Table A6

Moderation Identification: Probability of Membership, Dependent Variable Means by Class

Variabley8	Grand Mean	Comparative Index				Wald Chi-Square (χ^2)
		Cluster 1	Cluster 2	Cluster 3	Cluster 4	
Outcomes and mediators (ordinal means)						
First-order mechanism						
M1welcome	3.59	3.67	3.63	3.65	3.51	0.61
M1reputat	4.74	4.97	4.73	4.73	4.66	2.114
M1tlstress	2.93	2.83	2.69	2.98	3.14	2.165
Second-order mechanism (M_2)						
Avg. Academic Self-Efficacy	4.14	4.14	4.08	4.17	4.15	-
Avg. Belonging	5.21	5.19	5.01	5.29	5.24	-
Avg. Navigation	5.01	4.99	4.83	5.09	5.04	-
Transition Smoothness	ß					
Academic Transition	4.4	4.44	4.66	4.36	4.41	3.56
Social Transition	4.43	4.23	4.66	4.49	4.44	7.401
Housing Transition	4.8	4.71	4.67	4.78	5	0.625
Financial Transition	4.58	4.32	4.48	4.45	5.07	14.038**

Note. The top portion shows identification of the four-cluster interpretation using posterior probabilities weighted using the BCH method. The bottom section reports estimated means also calculated using posterior probabilities. χ2 represents overall equality tests between cluster probabilities/means. Childcare responsibility's omnibus test of equality was marginally significant (p =0.055).

Figure A1


C1
C2
C3
C4
Explained Variance (R²)
0.8
0.6
0.4
0.2
0
welcome
reputat
tlstress
SANA
avgase
avgbelong
avgnav
acadtran
soctran
houstran
fintran