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Immigrant Youth Resilience: Theoretical Considerations, Empirical Developments, and Future Directions

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Resilient adaptation among immigrant youth provides the foundation for healthy and productive adult lives. Great diversity is observed in their adaptation. This diversity has been studied during the past decade from different angles and intellectual traditions. However, the results are disconnected. In this paper, first, we present a resilience conceptual model for understanding immigrant youth adaptation. We argue that its concepts and principles allow us to best pull together what is known and discover what is still unknown. Together with narrower topic-specific conceptual models, it can guide the formulation of hypotheses regarding immigrant youth resilience. Second, we examine comparatively, through the lens of this conceptual model, results of a content analysis on the abstracts of studies on individual differences in immigrant youth adaptation, conducted during the past decade in North American and European countries. Finally, we discuss the meaning of acculturation-related terms which are often used in an inconsistent way.
Key words: immigrant – adolescence – resilience – adaptation – acculturation

Currently, an estimated 272 million people live in a different country than where they or their parents were born (United Nations, 2019). Europe hosts the largest number of these migrants and North America the second largest (United Nations, 2019). European nations have seen during the past years a strong influx of economic immigrants and refugees mostly originating from Asian and African countries. North America, on the other hand, which is a nation formed by immigrants, saw in the last 50 years a surge of migratory movements, mainly from Latin America and Asia. The resulting demographic changes have led at times to a *superdiversity*, which involves a diversification of diversity (Vertovec, 2007). For example, in Great Britain since the 1990s, in addition to individuals who migrated in the 1950s and 1960s from former British colonies or Commonwealth countries, small and scattered groups of new migrants have settled in the country.

Immigrant receiving nations often are challenged by the rising levels of ethnic, racial, religious, and relatedly economic and educational diversity. The inevitable transformation of the human landscape in receiving societies has not always been managed in a constructive and mutually beneficial way that promotes the well-being of immigrants and the prosperity and cohesion of society (in press). Receiving nations often fail to integrate immigrants into the fabric of society and to support the development of positive relations between immigrants and the local population (Marks, McKenna, & Garcia Coll, 2018). However, it is in the best interest of receiving societies to support the positive adaptation of immigrants, particularly in light of increasing life expectancies and decreasing birth rates in Western countries (Hernandez, 2012). Immigrants are already to a significant degree, and in the years to come will increasingly become more important forces in the economies of receiving societies with nonimmigrant senior citizens' retirement pensions partly depending on the economic contribution of immigrants (Hernandez, 2012). In this context, the positive adaptation and well-being, in particular, of the children of immigrants, whose lives are tied to their new home, are of great importance since they provide the foundation for healthy and productive adult lives (Motti-Stefanidi, Berry, Chryssochoou, Sam, & Phinney, 2012).

Significant diversity in immigrant youth adaptation has been observed (Masten, Motti-Stefanidi, &

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Rahl-Brigman, 2019). Some youths adapt well whereas others present adaptation difficulties and/or psychological symptoms. Understanding what matters for immigrant youth positive adaptation and mental health in the context of challenged and challenging receiving societies, which are often rejecting toward immigrants (Gobel, Benet-Martinez, Mesquita, & Uskul, 2018), has significant implications for framing public policies concerning immigrant integration, and consequently for the prosperity of the receiving society as well as for the well-being of immigrants themselves (Marks et al., 2018; in press).

The diversity resulting from the ever-increasing flows of migration toward Western societies has triggered a flurry of psychological research during the past decade. Acculturation psychologists, developmental scientists, and social psychologists have examined from different angles aspects of the immigrant lived experience and its consequences on youth's adaptation and well-being, and have greatly contributed to our understanding of why some immigrant youth do well whereas others falter. During this period, a number of edited books, solely devoted to the topic of immigrant youth adaptation, development, and acculturation, have been published (Cabrera & Leyendecker, 2017; García Coll, 2012; García Coll & Marks, 2012; Güngör & Strohmeier, 2020; Masten, Liebkind, & Hernandez, 2012; Suárez-Orozco, Abo-Zena, & Marks, 2015; Titzmann & Jugert, 2020).

The scientific evidence accumulated from this work provides clues as to what matters for immigrant youth positive adaptation. However, extant evidence on the topic needs to be organized based on an overarching conceptual framework which will provide the structure that will help researchers see the connections between findings stemming from different paradigms and intellectual traditions, and will guide research objectives. The question arises as to which framework would allow researchers to best pull together what we know and suggest how we may discover what is yet unknown regarding immigrant youth positive adaptation?

We argue that to understand who among immigrant youth adapt well, and conversely who have adaptation difficulties, and why, a developmental resilience model with integrated acculturation and social psychological concepts provides an appropriate lens for the following reasons. First, immigrant youth are first and foremost developing individuals. Therefore, the backbone of the model for understanding immigrant youth adaptation needs to be developmental. Second, most immigrant youth, after an initial period in the receiving country, adapt and do well (e.g., Berry, Phinney, Sam, & Vedder, 2006; Masten et al., 2012). Thus, a resilience perspective focusing mainly on positive adaptation and mental health outcomes and on strengths and social resources provides a more accurate description and understanding of their potential for doing well in the host country. Third, immigrant youth live and grow between at least two cultures (Berry et al., 2006), and fourth, they develop and acculturate in a societal context which is replete with prejudice and discrimination (Marks, Ejesi, McCullough, & García Coll, 2015). The latter points reveal the significance of the acculturation and social psychological perspectives in understanding their adaptation.

The key purpose of this paper is to organize and discuss scientific evidence, produced this past decade, on individual differences in immigrant youth adaptation, based on a recently developed conceptual framework for understanding immigrant youth resilience. Accordingly, the paper is organized in six sections. In the first section, key concepts and principles of this multilevel resilience framework, which integrates developmental, acculturation, and social psychological perspectives, will be briefly presented (Motti-Stefanidi et al., 2012; Motti-Stefanidi & Masten, 2017, 2020; Suárez-Orozco, Motti-Stefanidi, Marks, & Katsiaficas, 2018). Furthermore, the relation of the integrative resilience model with narrower, topic-specific conceptual models will also be demonstrated with examples. In the second section, a caveat about terminology related to the study of immigrant youth adaptation will be discussed. In the next two sections, the results of a content analysis performed on the abstracts of studies focusing on individual differences in immigrant youth adaptation, which were published during the last decade in major Developmental Science journals, will be presented and discussed. More specifically, in the third section, the methodology and results of the content analysis will be described, and in the fourth section, predictors of individual differences in immigrant youth adaptation stemming from the content analysis will be discussed through the lens of the integrative resilience model. In the fifth section, the methodological and statistical approaches adopted by scientists studying immigrant youth adaptation will be examined, also organized around key principles of the resilience framework. Finally, future directions for the study of immigrant youth resilience will be discussed.

AN OVERARCHING CONCEPTUAL MODEL FOR UNDERSTANDING IMMIGRANT YOUTH RESILIENCE

The foundation of the resilience model for understanding why some immigrant youth do well in the receiving society whereas other falter is Masten's resilience developmental model, which is grounded in Developmental Systems Theory (DST; Bronfenbrenner & Morris, 2006). DST is currently the prevailing conceptual framework for research in human development (Lerner, 2018). It integrates ecological models of individual development with general systems theory. DST principles guide research in human resilience (Masten & Kalstalbakken, 2018), in general, as well as in immigrant youth resilience (Motti-Stefanidi & Masten, 2020).

Core Concepts of the Model for Understanding Immigrant Youth Resilience

Resilience is defined as the capacity of a dynamic system to withstand and recover from significant challenges that threaten its stability, viability, or development (Masten, 2014). Resilience is a dynamic concept that can be applied to many systems across levels of context, namely, the individual person as a system, including its biological, cognitive, socioemotional, and behavioral dimensions, the family system, the school system, and the societal system (Masten, 2014). At the individual level, resilience refers to doing well as inferred from positive patterns of adjustment or development, during or following significant risk or adversity that threaten the individual's adaptive function, survival, or future development (Masten, 2014).

Two judgments need to be made to infer resilience. First, the person must have experienced stress or adversity which place at risk his/her adaptive functioning. Second, the person must be adapting well, by some criteria of adjustment, despite the stressful life experience (Masten, 2014; Motti-Stefanidi & Masten, 2020).

The first criterion for inferring resilience is that the individual has experienced *threat, trauma, or negative life events* which predict higher rates of problematic and undesirable outcomes (Masten, 2014). Being an immigrant, and relatedly experiencing discrimination, have often been shown to place at risk immigrant youth positive adaptation and mental health (e.g., Dimitrova, Chasiotis, & Van de Vijver, 2016; Motti-Stefanidi, 2014, 2019). Other risks and threats to all youth's adaptation include sociodemographic risk indices such as low SES and single parent family, exposure to traumatic and stressful experiences (e.g., maltreatment, war), or biological markers of risk (e.g., physical illness).

The second criterion for inferring resilience concerns the quality of their adaptation in the context of risk and adversity. A key index of positive adaptation for all youth is doing well with respect to age-salient *developmental tasks* (Masten, 2014). These tasks reflect the expectations and standards for behavior and achievement that parents, teachers, and society set for them, and that they themselves usually come to share. This criterion refers to *the normative principle* in the resilience model, according to which positive adaptation is delineated in relation to what is typical for individuals of a particular age, gender, situation, and culture (Masten & Kalstalbakken, 2018). This point raises the question whether the family, representing the ethnic culture, or the school, representing the host culture, decide what these expectations are (for a discussion on this topic see Motti-Stefanidi, 2018).

Developmental tasks can be organized in broad domains, such as individual development, relationships with parents, teachers, and peers, and functioning in the proximal environment and in the broader social world (Sroufe, Egeland, Carlson, & Collins, 2005). Examples of positive adaptation during adolescence with respect to developmental tasks are success in school, having close friends/being accepted (and not rejected) by peers, exhibiting positive conduct, the development of self-regulation or a cohesive and integrated sense of personal identity (e.g., Motti-Stefanidi & Masten, 2020). Success in meeting these developmental expectations and standards for behavior and achievement requires that youth are doing "adequately well" ("doing OK") with respect to developmental tasks (Masten, 2014).

Doing well youth with respect to developmental tasks is a normative criterion of positive adaptation. However, immigrant youth live and grow in the context of their ethnic and the national cultures (Berry et al., 2006). Thus, they need to address *acculturative tasks* as they address developmental tasks (Motti-Stefanidi & Masten, 2020).

A keystone acculturative task that immigrant youth face is the development of cultural competence in both ethnic and receiving cultures (Berry et al., 2006). Culturally competent immigrants are able to communicate effectively in ethnic and national languages, have friends from both their ethnic and the national group, know the values and practices of both groups, code-switch between

languages and cultures as necessary (Oppedal & Toppelberg, 2016). A related criterion is the development of strong and secure ethnic and national identities (Umaña-Taylor et al., 2014). Thus, an important criterion of positive adaptation with respect to acculturative tasks is that immigrant youth become bicultural (Berry et al., 2006). In a meta-analysis that included 83 studies and 23.197 participants, Nguyen and Benet-Martinez (2013) found that being bicultural was linked to better adaptation with respect to developmental tasks as well as better psychological well-being than being involved either with the ethnic or the host culture, alone.

Finally, psychological well-being is another important index of the quality of immigrant youth adaptation. The presence of self-esteem and life satisfaction and the absence of anxiety and/or emotional symptoms are common indexes of psychological well-being used by both developmental and acculturative researchers (e.g., Berry et al., 2006; Masten, 2014).

Influences on Immigrant Youth Adaptation

Individual differences in the quality of immigrant youth adaptation and mental health suggest that certain factors and processes may facilitate their positive adaptation and development in the face of risk and adversity. These influences may function as promotive and/or protective factors for their positive adaptation (Masten, 2014). *Promotive factors*, also referred to as assets, resources, compensatory factors, or social and human capital, predict better outcomes both in high- and low-risk conditions. *Protective factors*, on the other hand, play a particularly important role when risk or adversity is high. The expected positive link between the protective factor and adaptive outcome is either more pronounced or only present when risk is high. Thus, they moderate or buffer adaptation in the context of risk, reflecting an interaction effect. Some factors, such as good parenting, fit both categories (Masten, 2014).

The goal of the integrative resilience model is to explain the diversity in immigrant youth adaptation. Toward this purpose, potential predictors of positive adaptation are examined at multiple context levels. Suárez-Orozco et al. (2018) recently proposed a four-level resilience model (Figure 1) that is partly based on Motti-Stefanidi et al.'s (2012) initial three-level resilience model. Systems at each level of context (e.g., the societal system, the family system, and the school system) as well as at the level of the individual person as a system may present challenges, placing at risk the adaptation of immigrant youth, and/or opportunities and strengths, which may promote or protect it.

Starting from the top, the model includes the influence on youths' adaptation of (1) *global forces*, which refer to the push-and-pull conditions for migration, such as economic inequalities between countries, war, terrorism, and natural disasters; (2) *political and social contexts of reception*, which refer to cultural beliefs, social representations, ideologies, and attitudes toward immigrants, as well as to policies and programs that shape the experience of immigrant family resettlement; (3) *microsystems*, which refer to youths' proximal contexts (family, schools, peers). These contexts constitute significant influences both for immigrant youth's development and acculturation, and to their relationships with family, peers, and teachers; and (4) *individual-level attributes*, such as personality, self-regulation, and cognition (Suárez-Orozco et al., 2018).

The four levels of influence are nested within each other, interconnected, and interacting, (Masten & Kalstabakken, 2018). Migration tends to destabilize not only migrating individuals but also receiving societies, and their proximal environments, such as their schools and families. How well immigrant youth will do depends to a significant degree on the resilient functioning of multiple systems facing the challenges resulting from migration (in press).

Immigrant youth positive, as well as problematic, adaptation emerge from complex interactions among systems within an individual as well as between the individual and the systems at multiple levels of context in which their lives are embedded over time, reflecting *the multiple level principle* (Masten & Kalstabakken, 2018). These interactions across systems and levels of influence may lead to significant individual variation in adaptive trajectories, with some immigrant youth coping effectively with challenges related to their immigrant status and doing well and others doing less well. Such diverging pathways of adaptive functioning reflect *the multifinality principle* (Cicchetti & Rogosch, 2002).

Following a developmental systems perspective on resilience, the influences in the proposed integrative model are assumed to be bidirectional. Current influences from the four levels have an impact on the quality of immigrant youth adaptation, but youth's current level of adaptation also feeds back and influences their later functioning, as well as the functioning of the contexts in which their lives are embedded (Motti-Stefanidi et al., 2012).

Thus, adaptation is a dynamic process that is shaped not only by the current interplay between

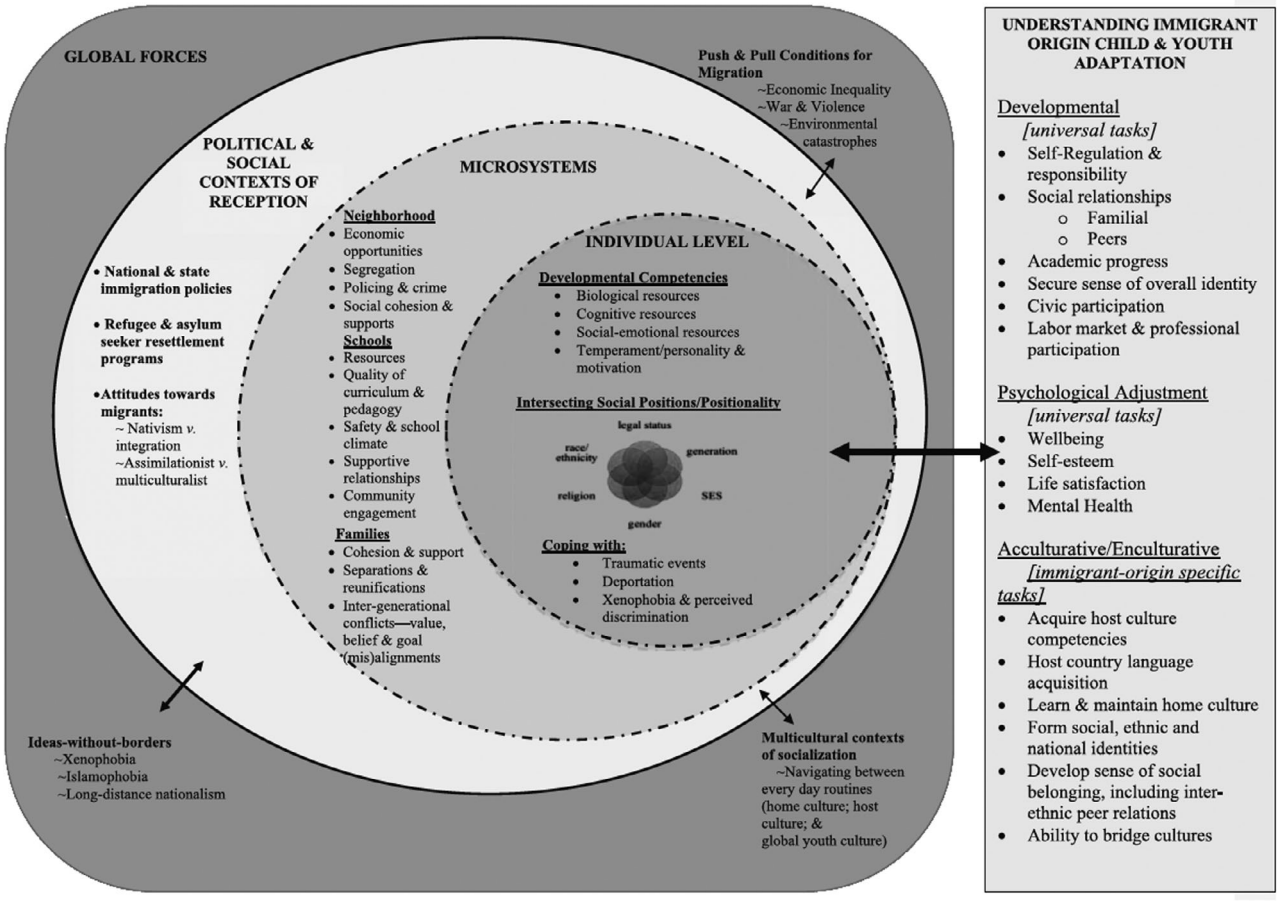

FIGURE 1 An integrative risk and resilience model for the adaptation of immigrant-origin children and youth to the host country.*Note*. From "An integrative risk and resilience model for understanding the development and adaptation of immigrant origin children and youth," by C. Suárez-Orozco, F. Motti-Stefanidi, A. K. Marks and D. Katsiaficas, 2018, *American Psychologist*, *73*, p. 786 (https://doi.org/10.1037/amp0000265). Copyright 2018 by the American Psychological Association.

risk and protective processes but also by youths' adaptive history, namely the history of their prior successes and failures in key developmental tasks (Cicchetti & Rogosch, 2002), as well as in key acculturative tasks (Motti-Stefanidi, 2019). In general, both continuity and change in adaptive functioning are expected (Cicchetti & Rogosch, 2002; Masten, 2014; Sroufe et al., 2005). As Masten (2014) argued, *competence begets competence*. However, in addition to the continuity over time within domains of adaptation, how well youth currently do in one developmental task could spill over to affect over time how well they will do in other domains of adaptation. The longitudinal links between adaptation domains are captured by *developmental cascades* which are tested by complex dynamic models. These models test the hypothesis that positive (or negative) adaptation in one domain spreads to influence adjustment in one or more other domains, altering the course of development over time. Such cascades are also expected to potentially alter the course of immigrant youths' orientation toward the host and/or the ethnic cultures (Motti-Stefanidi, 2019). For example, a longitudinal mediation analysis revealed that higher academic achievement among immigrant youths at Wave 1 increased their school engagement at Wave 2, which in turn increased their orientation toward the host culture and decreased their orientation toward the ethnic culture at Wave 3 (Motti-Stefanidi, Mastrotheodoros, & Asendorpf, 2020). Currently, however, such cascades have rarely been used to test the longitudinal link between adaptation domains in immigrant youth samples.

The Relation between the Resilience Model and Topic-Specific Models

The resilience integrative model provides the broad, overarching structure for asking risk (what

places at risk the positive adaptation of immigrant youth?) and resilience (what promotes/ protects their positive adaptation?) research questions and contributes to the formulation of hypotheses concerning immigrant youth adaptation. Since this integrative resilience model is grounded in developmental systems theory, the latter provides the principles (system principle, developmental principle, multilevel principle, normative principle, bidirectionality principle, etc.) that guide the study design. Thus, the investigation of risk and resilience research questions becomes more nuanced.

To address specific elements of the integrative multilevel model and to formulate related hypotheses, narrower topic-specific conceptual models, which are focused on a particular aspect of development or acculturation (e.g., the effect of parents' acculturation on children's adaptation; Telzer, Yuen, Gonzales, & Fuligni, 2016), or on a particular aspect of the immigrant experience (e.g., the development of prejudice against immigrant peers by majority culture youth; Miklikowska, 2018), may also need to be integrated into the resilience model. These topic-specific conceptual models often stem from the developmental, acculturation, or social psychological literatures. Together with the resilience model, they may guide the formulation of research hypotheses and the discussion of empirical findings.

For example, Motti-Stefanidi (2018) tested in a three-wave longitudinal study with repeated measures the risk question whether perceived ethnic discrimination is a risk factor for host acculturation, concurrently and over time. It was expected that ethnic discrimination would be a risk factor for immigrant youth host acculturation. However, according to the DST *bidirectionality principle*, the direction of influence on immigrant youth's adaptation is expected to be reciprocal, instead of unidirectional (Masten & Kalstabakken, 2018). To test for the direction of effects, the longitudinal interplay between immigrant youth's acculturation into the host culture and their perceptions of being discriminated against was examined.

Narrower, topic-specific conceptual models and related evidence provided support for both hypotheses. First, the hypothesis that ethnic discrimination would be a risk factor for immigrant youth host acculturation is in line with Arends-Toth and Van de Vijver's conceptual model of acculturation (2006) and is supported by the acculturation literature (e.g., Berry et al., 2006). Furthermore, this hypothesis finds support in the social psychological rejection-identification model (RIM; Branscombe, Schmitt, & Harvey, 1999), which suggests that perceived discrimination discourages immigrants from identifying with the host society and may result in a tendency to disengage from it. Second, the hypothesis that higher host acculturation would predict lower perceived ethnic discrimination was supported by developmental intergroup theory (DIT; Bigler & Liben, 2007), which suggests that young people tend to categorize individuals into social groups. Nonimmigrant youth may categorize their immigrant peers based on the degree to which they have acculturated into the host culture. In societies that prefer immigrants to assimilate into the host culture, youth higher in host acculturation may actually experience less discrimination compared to youth lower in host acculturation and higher in ethnic acculturation.

It was found that, as expected, immigrant youth reporting higher acculturation into the host culture reported decreases in perceived ethnic discrimination over time (Motti-Stefanidi, 2018). However, against expectations, higher perceived ethnic discrimination did not predict decreases in acculturation toward the receiving culture over time. Testing only the path from perceived ethnic discrimination to acculturation would have revealed only part of the nature of the link between the constructs.

Some researchers examine different types or risks, as well as potential promotive and protective factors for immigrant youth adaptation and mental health, and apply DST principles, without explicitly framing the research questions in a resilience framework. For example, researchers have focused on the longitudinal interplay between perceived ethnic/racial discrimination and ethnic/racial identity (ERI) (e.g., Wang & Yip, 2020; Zeiders et al., 2019). They formulated a risk question framing it in topic-specific conceptual models and tested it based on the DST principle of bidirectionality. Other studies examine mediating and moderating processes, the latter referring to protective processes, which are key concepts in a resilience conceptual model (e.g., Maes, Stevens, & Verkuyten, 2014; Titzmann & Jugert, 2015). As the content analysis of the papers, which will be presented in the next section, reveals, the term *moderator* is used twice as often in the papers reviewed as the term *protective*. Most studies frame their questions in terms of the narrower topic-specific conceptual models.

A CAVEAT ABOUT TERMINOLOGY

Scholars studying individual differences in immigrant youth adaptation often use the same term to

refer to different dimensions or aspects of adaptation or different terms to refer to the same. This inconsistency in the use of terms is confusing. In this section, three such areas of inconsistency will be highlighted.

The first area of inconsistency is related to the demarcation of who is considered to be an immigrant in different parts of the world. North America and Europe, which host the largest numbers of immigrants (United Nations, 2019), differ in the way they define immigrant status. In North America, since citizenship is granted automatically to children born on American or Canadian soil, children who migrated with their parents are considered first-generation immigrants, whereas those who were born in the United States or Canada to immigrant parents are often considered ethnic minorities (Ferguson & Birman, 2016). In most European countries, even individuals born in the country who may (or may not) have citizenship are considered of immigrant descent (see, e.g., Schachner, Juang, Moffitt, & Van de Vijver, 2018). As a result, examining extant evidence on individual differences in immigrant youth adaptation requires searching for studies on immigrant and ethnic minority youth in North American literature and on immigrant youth in European literature. However, a caveat is that in North America ethnic minorities actually refer to people established in the country over many generations who cannot be considered immigrants in a nation formed by migration. In this paper, youth of immigrant background refer to young people who either migrated themselves (first generation) or were born in the host country to immigrant parents (second generation).

The second area of inconsistency concerns terms that refer to *acculturation*. According to John Berry, a pioneer in acculturation research whose work and ideas have been very influential in the thinking of scholars around the world (see Sam & Berry, 2016), acculturation has two dimensions, namely maintenance of the ethnic culture and adoption of the host culture (e.g., Berry et al., 2006). He proposed four acculturation strategies, which are *integration* (strong orientation toward both cultures), *assimilation* (stronger orientation toward host culture), *separation* (stronger orientation toward ethnic culture), and *marginalization* (weak orientation toward both cultures). Newer lines of research based on latent class analysis have not fully replicated these four acculturation strategies with marginalization occurring very infrequently (see Ward & Geeraert, 2016).

The terms *acculturation and assimilation* are often used interchangeably, leading to confusion. At times, the term acculturation is used in the developmental literature to actually mean assimilation (see Van de Vijver, 2018 for discussion). In this conceptualization, acculturation is treated as a unidimensional construct, ranging from more to less acculturated, where the more acculturated immigrant is considered to have adopted and learned the national culture (see Ward & Geeraert, 2016). From this perspective, orientation toward the ethnic culture seems to be less important for immigrant adaptation.

In this line, the term *acculturation* is often used, particularly by US developmental scientists, to refer to the learning of and adopting the host culture and *enculturation* to the learning and maintaining the ethnic culture. In contrast, other scientists, based on the premise that acculturation is two-dimensional and, thus, cannot only refer to the learning of and adopting the host culture (see Ward & Geeraert, 2016), use terms such as orientation toward and maintenance of the ethnic culture and orientation toward and adoption of the national culture, instead of using the terms acculturation and enculturation.

Relatedly, the use of the term integration is often confusing. Some scholars mean by integration, positive adaptation in the host society, instead of referring to a strong orientation toward both national and ethnic cultures (see Van de Vijver, 2018). Furthermore, the terms integration, which is an acculturation strategy, and biculturalism, both referring to immigrants' orientation toward both national and ethnic cultures, are also used interchangeably.

Following John Berry's theorizing, acculturation is conceived in this paper as having two dimensions, one referring to orientation toward and maintenance of the ethnic culture and the other to orientation toward and adoption of the host culture. The term integration and biculturalism are used as synonymous to refer to youth learning and maintaining both the ethnic and the host cultures. Instead of acculturation versus enculturation, the terms national or ethnic acculturation, or orientation toward the national or ethnic cultures are used.

The third area of inconsistency is related to terms referring to immigrant youth *adaptation*. Developmental scientists and acculturation psychologists differ in the terms they use and relatedly, in the way they define adaptation among immigrant youth. Developmental scientists propose three indices of positive adaptation among

immigrant youth (Suárez-Orozco et al., 2018). They separate adaptation with respect to *developmental tasks* from adaptation with respect to *acculturative tasks* and include a third index, namely *psychological well-being*.

Acculturation psychologists make a distinction between two kinds of immigrant adaptation, namely *sociocultural* and *psychological adaptation*. Psychological adaptation refers to psychological well-being, and is similarly used by both developmental and acculturation researchers (e.g., Berry et al., 2006; Motti-Stefanidi & Masten, 2020). Sociocultural adaptation is defined as the acquisition of the culturally appropriate skills needed to operate effectively in a specific social or cultural context (Sam & Berry, 2016), which, according to the developmental resilience model, is an acculturative task (Motti-Stefanidi & Masten, 2020). In the case of youth, sociocultural adaptation has been operationalized by acculturation experts as attitudes toward and success in school, and lack of problem behaviors in the community (Berry et al., 2006), which are developmental tasks (Motti-Stefanidi & Masten, 2020).

Thus, the term sociocultural adaptation does not clearly differentiate, and actually confounds the developmental and acculturative dimensions of immigrant youth adaptation. The term is defined as an acculturative task and operationalized, in the case of youth, as a developmental task. However, the developmental and acculturative dimensions of immigrant youth adaptation are distinct even though clearly interrelated over time (Motti-Stefanidi & Masten, 2020; Suárez-Orozco, Suárez-Orozco, & Todorova, 2010).

The term sociocultural adaptation also lacks a clear developmental focus. Different adaptation indices of positive adaptation are appropriate for children at different developmental stages (Suárez-Orozco et al., 2018). Thus, these indices need to be adapted to the developmental stage of the immigrant child. Furthermore, certain challenges in immigrant youth's lives are at the interface between acculturation and development (see in press). For example, the acculturation literature treats the formation of ethnic and national identities as a part of the acculturation process (e.g., Berry et al., 2006). However, the developmental dimension is lost in this conceptualization. The formation of these identities is developmentally grounded since it follows an age-graded progression and is based on the developmental processes of exploration and resolution (Umana-Taylor et al., 2014), and in some contexts, it is part of the formation of a personal identity (in press; Schwartz et al., 2018), which is a developmental task.

In this paper, we adopt the terms adaptation with respect to developmental and acculturative tasks. These terms, compared to the term sociocultural adaptation, allow for a more nuanced distinction between the developmental and acculturative aspects of immigrant youth adaptation. Furthermore, since immigrant youth are first and foremost developing individuals who face, in addition to developmental challenges, acculturative challenges, these terms allow a developmentally sensitive operationalization of adaptation with respect to both developmental and acculturative tasks.

A CONTENT ANALYSIS OF STUDIES ON IMMIGRANT YOUTH

To search for major empirical findings concerning immigrant youth adaptation, we conducted a content analysis on studies published in eight scientific journals during the past decade. Most target journals are flagship journals of North American, European and International Developmental Science Societies (see Table 1). The APA journal Cultural Diversity and Ethnic Minority Psychology is a common outlet for papers focusing on individual differences in immigrant youth adaptation.

Method

The flow of the selection is presented in Figure 2 which follows the relevant items in the preferred reporting for systematic review and meta-analysis (PRISMA; Moher, Liberati, Tetzlaff, & Altman, 2009).

Initially, we identified articles published since 2010 that included either the words *immigrant* or *refugee* as keywords in the abstract. For Cultural Diversity and Ethnic Minority Psychology, we included *age below 18* as an additional criterion. The initial search yielded 591 articles. After careful reading of the abstracts, papers that did not present results on individual differences in immigrant youth adaptation or on aspects of their lived experience which may influence individual differences, and papers focusing on instrument validation and new statistical methods (where some immigrant-related data were used as an empirical demonstration) were filtered out, resulting in a total of 336 papers which were retained for the analysis (Table 1 for each journal). These papers were read through and coded for their research design, study sites, target immigrant groups, main analysis, and

TABLE 1
Summary of the Journal Content Analysis

Journal	*# Papers Identified*	*# Papers Retained*	*Empirical*	*Meta-Analysis*	*Review/Commentary*
Child Development	53	51	45 (88.2%)	0 (0%)	6 (11.8%)
Cultural Diversity and Ethnic Minority Psychology	37	24	24 (100%)	0 (0%)	0 (0%)
Developmental Psychology	34	17	17 (100%)	0 (0%)	0 (0%)
European Journal of Developmental Psychology	70	14	11 (78.6%)	0 (0%)	3 (21.4%)
International Journal of Behavioral Development	24	23	23 (100%)	0 (0%)	0 (0%)
Journal of Adolescence	28	27	24 (88.9%)	0 (0%)	3 (11.1%)
Journal of Research on Adolescence	21	20	15 (75.0%)	1 (5%)	4 (20.0%)
Journal of Youth and Adolescence	324	160	157 (98.1%)	3 (1.9%)	0 (0%)
Total	591	336	316 (94.0%)	4 (1.2%)	16 (4.8%)

sources of informants. Given that only factual information from each paper was coded, there is little room for subjective evaluation or divergence in assigning codes. The abstracts of these papers were then subjected to text analysis. The decision to only include abstracts and not full papers was based on the consideration that abstracts provide central, key information of the papers, whereas texts of full papers may add distracting noises. Next in this section, we provide a summary of the coded studies and results of the textual analysis.

Results

Summary of Coding. *Type of contribution.* The majority of the papers were empirical (n = 316, 94%). Four meta-analysis papers (1.2%) were identified (featuring school absenteeism and dropout, ethnic differences in bullying perpetration, ethnic labels, and intergenerational transmission of work values, respectively). Sixteen (4.8%) of the papers were either conceptual, review papers or commentaries.

Study site. Among the empirical papers, 294 (94.8%) studies were carried out in one country, 12 (3.9%) in two countries and four studies (1.2%) from 3 to 41 countries. Specifically, these studies were conducted in North America (n = 198, 62.7%), Europe (n = 78, 24.7%), Middle East (n = 14, 4.4%), Asia and Australia (n = 7, 2.2%), and the rest across continents (n = 19, 6%).

Among the single-country studies, United States is the most common site (n = 186, 59.4%), followed by Germany (n = 13, 4.1%), the Netherlands (n = 12, 3.8%), and Sweden (n = 12, 3.8%). Cross-country studies tended to focus on geographically close countries (e.g., Germany, Netherlands, and Switzerland in Europe; United States, Canada, and Jamaica in North America) and often compared individualistic versus collectivistic cultures (e.g., the United States and Japan, the Netherlands and Turkey).

Immigrant/Ethnic groups. The immigrant or ethnic backgrounds of the samples are highly diverse. A total of 100 different groups were included in these empirical papers. In North American papers, Latin American, Mexican American, Asian American participants, and participants from the Former Soviet Union, and in Europe, immigrants from Turkey and Morocco, and immigrants of Russian-Jewish descent were included.

Design of the studies. Three hundred and two (95.9%) studies used quantitative methods, six (1.9%) qualitative, and seven (2.2%) were based on mixed-methods designs. Over half of the studies were longitudinal (n = 162, 53.3%), others were either based on cross-sectional surveys (n = 135, 44.3%) or experiments (n = 8, 2.6%). It should be noted that in Child Development, Developmental Psychology, and Journal of Youth and Adolescence, the percentage of longitudinal studies was higher than the average for all journals.

Main statistical analyses. Up to three main statistical analyses for each of these empirical papers were coded. Given that almost all studies used multiple analysis tools and the technical terms sometimes were used differently, we report here the top statistical analysis performed per paper. Various forms of multiple regressions (n = 68), structural equation modeling, including path model and confirmatory factor analysis (n = 67), multilevel analysis (n = 66), variance and covariance-based mean comparisons (e.g., ANOVA, MANOVA, n = 41), and various growth curve models (n = 27) were performed. It is noted that the cross-lagged panel model which is nested under structural equation modeling was the main statistical analysis performed in 26 papers.

Source of informants. Across journals, 63.3% (n = 198) studies relied on information from one

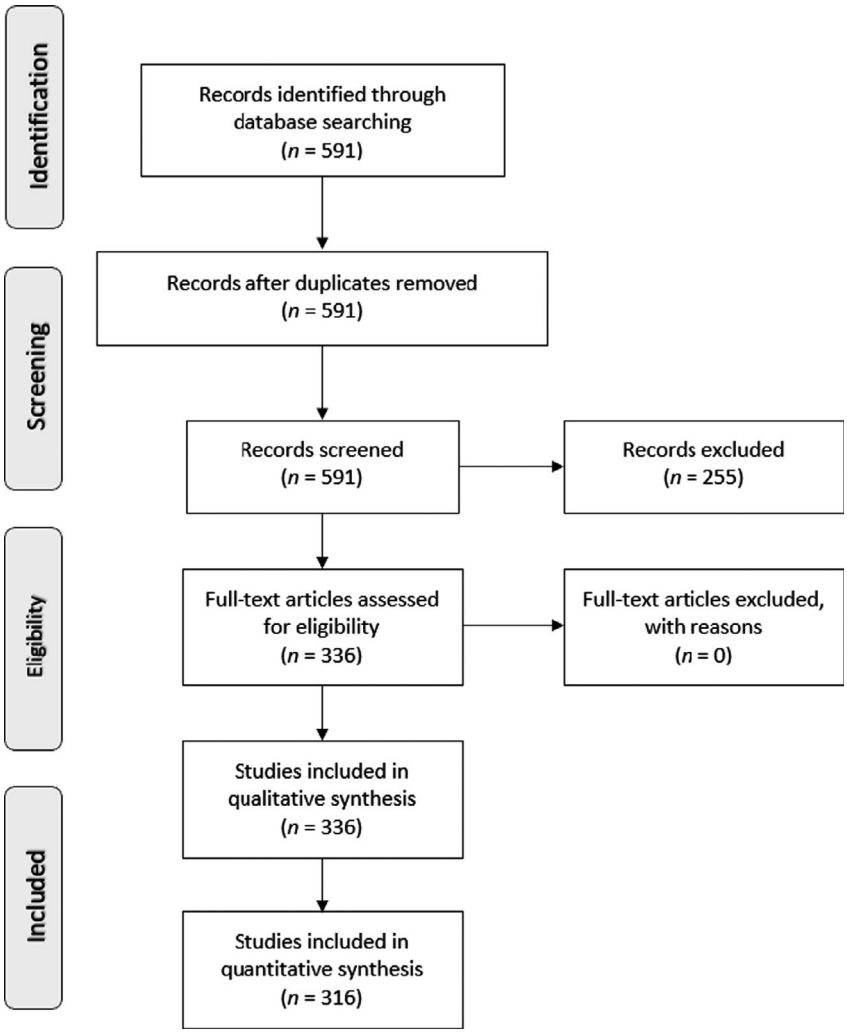

FIGURE 2 Flow diagram for journal paper selection in the content analysis.

source, mainly self-reports, or from parental (usually mother) reports. About a third of these studies (n = 102) sought information from two different sources, where peer reports, parental self-reports, or child–parent interactions (in most cases with mother), teacher evaluations, or school records were elicited together with youth self-reports. There were also studies that sought information from multiple sources (n = 13, 4.2%).

Textual Analysis of Abstracts. We used Iramuteq (Ratinaud, 2009), an open-source statistical software for multidimensional analysis of text corpus and tables based on R programming language, to analyze the 316 empirical research abstracts. This text corpus produced 46,570-word occurrences and 3,239 active lexical units of analysis (i.e., terms), with a mean of 147.37 occurrences and 10.25 terms per abstract. As expected, the most frequent terms in the abstracts are *adolescent* (811 times), *immigrant* (590 times), and *youth* (451 times). Other frequently appearing terms are related to youth's proximal context, namely *parent* (394 times), *school* (360 times), *family* (331 times), and *peer* (183 times), and to acculturation, namely *ethnic* (389 times), *identity* (245 times), *cultural* (226 times), *discrimination* (189 times), and *acculturation* (166).

We applied Descending Hierarchical Classification analysis (DHC; Reinert, 1983) in order to identify repetitive language patterns within the abstracts. DHC explored the clusters of topics and issues related to immigrant youth adaptation which have been studied in the past decade. We also explored differences in the frequency distribution of the four clusters of topics across geographical regions of study using the chi-square criterion (Table 2).

DHC grouped 75.34% of the terms into four clusters (see Figure 3). These clusters will be

henceforth titled in the paper as *Cluster 1-Identities*, *Cluster 2-School & Peers*, *Cluster 3-Neighborhood*, and *Cluster 4-Family*. The titles were based on the most frequently used terms in the respective clusters.

The more frequent terms in Cluster 1 (16.9% of terms) are related to identities (frequently used terms are *identity* and *identification*). The term *native* and the cultural and ethnic background of participants are frequent (*German*, *Turkish*, *Dutch*, *Jewish*, *Russian*, *Moroccan*, and *Muslim*). These are at times hyphenated, such as *Turkish-Dutch* or *Moroccan-Dutch* (e.g., see Van Bergen, Wachter, & Feddes, 2017), and in other papers, only the ethnic label is used, such as *Turkish* or *Moroccan* (e.g., see Spiegler, Thijs, Verkuyten, & Leyendecker, 2019). This cluster is relatively more frequent in studies conducted in Europe, in the Middle East, and cross-nationally.

The more frequent terms in Cluster 2 (18.8%) are related to the school context. The terms that appear more frequently are *classroom*, *school*, *teacher*, *student*, *peer*, *classmate*, and *friendship*. Terms reflecting intergroup relations in the school context are also common (*ingroup*, *outgroup*, *attitude*, *prejudice*, *acceptance*, *trust*, and *rejection*). This cluster of terms also appeared more frequently in European studies and in Australasian studies.

The more frequent terms in Cluster 3 (30.2%) are related to the neighborhood context. Among the most frequently appearing terms are *neighborhood*, *risk*, *disadvantage*, *concentration,* and *violence*. These studies seem to focus on problematic outcomes (frequent terms: *victimization*, *substance*, *alcohol*, and *sexual*). The studies are conducted with samples from different ethnic and racial groups (frequent terms: *White*, *Black*, *Hispanic*, *African*, and *Asian*). This cluster is more frequent in studies conducted in North America.

The more frequent terms in Cluster 4 (34.1%) refer to the family context. Frequent terms are *parent*, *family*, *mother*, and *father*. The cluster includes acculturation-related terms, such as *cultural*, *acculturation*, *orientation,* and *value*. Terms such as *broker*, *language*, *stressor*, and *symptom* are also frequent. The samples consist mostly of ethnic groups in the US context (frequent terms: *Mexican*, *Chinese*, and *American*). This cluster is more frequent in North American studies.

We also conducted specificity analyses (SA) of the terms by study site (North America, Europe, Middle East, Australasia, and multiple countries) (Graffigna, 2012). SA indicated the most typical words (over-used terms) and those typically absent (under-used terms) by study site. Two interesting findings contrasting the typical terms used by European and North American scholars emerged (see Figure 4). The small size of the corpuses in other regions does not allow for conclusive remarks. First, in Europe, the discourse is mainly framed in terms of *immigrant* or *ethnic* versus *native* or *national*, whereas in North America, the term *American* is typically used, in hyphenated form, together with the ethnic or cultural background of study participants (*Latinx*, *Mexican*, and *Hispanic*). Second, in Europe, terms such as *social*, *attitude*, *status*, *school*, *student*, *peer*, *context*, and *positive* are typical in the abstracts, suggesting a social psychological influence on the developmental study of immigrant youth adaptation. In North America, terms such as *risk*, *discrimination*, *neighborhood*, *family*, *symptom*, *depressive*, *developmental*, *academic,* and *adjustment* are typical in the abstracts, suggesting a more risk-focused developmental approach.

PREDICTORS OF IMMIGRANT YOUTH ADAPTATION THROUGH THE LENS OF THE TEXTUAL ANALYSIS

In this section, we examine risks and resources that explain individual differences in immigrant youth adaptation and mental health drawing upon evidence from studies published during the past

TABLE 2
Relative Frequencies of Clusters by Geographic Region of Studies

Clusters	*North America*	*Europe*	*Middle East*	*Asia/Australia*	*Cross-National*
C1-Identities	*6.41****	**33.12*****	**43.33*****	*0.00**	**54.17*****
C2-School and Peers	*5.59****	**44.69*****	6.67	**36.84***	16.67
C3-Neighborhood	**41.28*****	*11.90****	*13.33**	31.58	*8.33**
C4-Family	**46.71*****	*10.29****	36.37	31.58	20.83

Note. Bold indicate observed frequencies higher than chance-expected frequencies and italics indicate observed frequencies lower than chance-expected frequencies in the specific geographical region of studies according to the chi-square criterion.
*$p < .05$. **$p < .01$. ***$p < .001$.

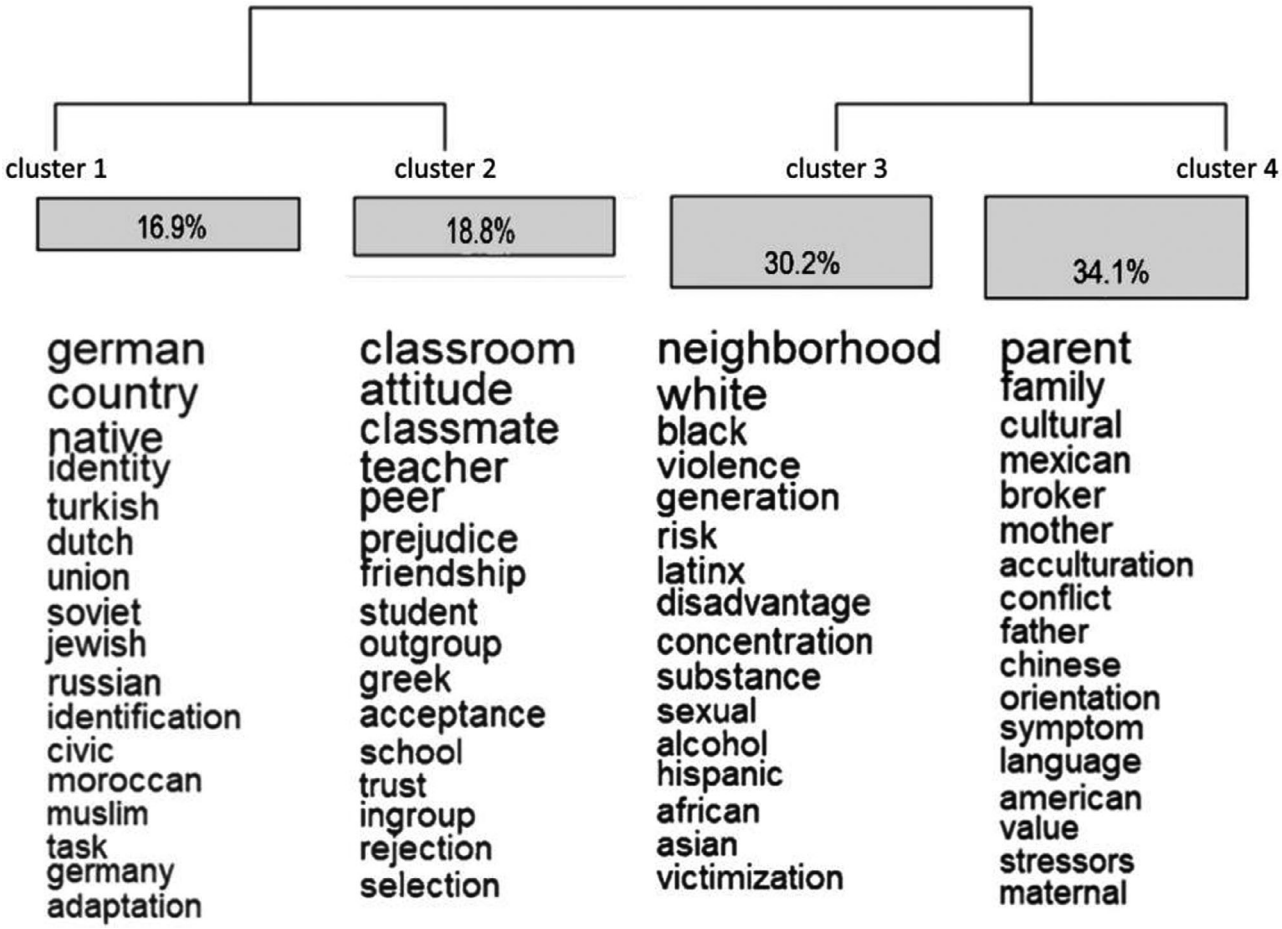

FIGURE 3 Descending hierarchical classification analysis (dendrogram of clusters with representative forms) of 3,239 active lexical units derived from 316 abstracts in eight journals.*Note*. Cluster 1: Identities; Cluster 2: School and Peers; Cluster 3: Neighborhood; Cluster 4: Family. Higher rank order and larger font size indicate a more representative form for a cluster.

decade. The discussion will be organized around the four clusters (Cluster 1-Identities, Cluster 2-School & Peers, Cluster 3-Neighborhood, and Cluster 4-Family) that resulted from the textual analyses. Risk and resilience questions will be examined by cluster. We examine first the most frequently studied risks, outcomes, and promotive/protective factors in each of the four clusters. Key questions addressed are the following. Which potential risks were examined in each of the four clusters and for which domains of youth's adaptation and mental health? Which factors and processes were examined as potentially promoting and/or protecting youth's positive adaptation and mental health in the context of these risks?

Cluster 1-Identities

The terms *identity* and *identification* are frequent in Cluster 1. It should be noted that some research focuses on immigrant youth identification, referring to the extent to which individuals view themselves as members of the host nation (e.g., Maes et al., 2014), whereas other research focuses on identity formation which entails the developmental processes of exploration and commitment (e.g., Umaña-Taylor, Kornienko, McDermott, & Motti-Stefanidi, 2020).

The formation of robust ethnic and national identities (or identification) may promote and/or protect over time immigrant youth's adaptation with respect to developmental tasks and/or their psychological well-being and mental health in the face of discrimination. The results on the potentially protective role of the formation of ethnic and national identities for the adaptation of immigrant youth in the context of ethnic discrimination are mixed but provide some important clues as to the significance of the formation of cultural identities in the context of such adversity. For example, Maes

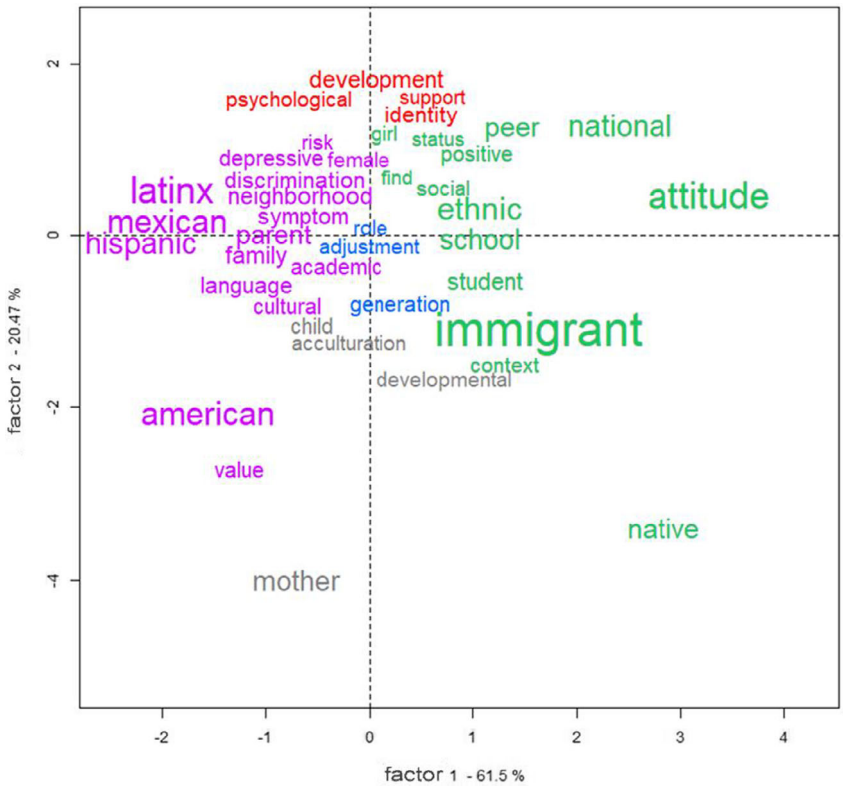

FIGURE 4 Specificity analysis of active terms by geographic region of studies.*Note*. Purple: North America; green: Europe; blue: Middle East; red: Asia/Australia; grey: multiple countries.

et al. (2014) studied Muslim youth of Turkish or Moroccan background and focused on ethnic, national, and religious identification. They found that whereas ethnic identification acted as a buffer in the context of discrimination for internalizing, it did not for externalizing problems. Religious identification exacerbated the negative effect of discrimination on both internalizing and externalizing problems, particularly for early adolescent girls. Thus, minority identities may have either a buffering or a sensitizing effect. National identification did not moderate the link between discrimination and mental health outcomes.

As was mentioned earlier, adaptive history contributes to individual differences in immigrant youth current adaptation (Motti-Stefanidi, 2019). Developing robust cultural identities and forming positive peer relationships are key developmental tasks for all youth (Masten, 2014; Motti-Stefanidi & Masten, 2020; Sroufe et al., 2005). These competencies are linked both concurrently and over time. For example, Umaña-Taylor et al. (2020) examined the interplay of national identity development and friendship network dynamics among immigrant and nonimmigrant youth across a 3-year period in middle adolescence. They found both friend selection and influence effects on national identity exploration and resolution. Earlier in adolescence, immigrant youth were more frequently choosing to befriend youth with similar levels of national identity exploration and resolution. Later in adolescence, youth, independently of immigrant status, became more similar to their friends in national identity exploration, which suggests that the peer influence effect may reflect a universal process.

Cluster 2-School & Peers

The term *prejudice* is frequent in Cluster 2 which focuses on the school and peer context. Studies under this cluster have been mostly conducted in Europe. Often, the term is used in studies examining the construction of social context for immigrant youth. The examples that follow concern longitudinal studies conducted in Sweden by two different research groups.

One such study examined how parents and peers contribute to the development of prejudice against immigrants by majority culture youth. Miklikowska, Bohman, and Titzmann (2019) found that

while majority culture parents set the stage for their children's development of prejudice against immigrants, majority youth's peers explain the day-to-day variation. The personal attributes of majority youth also seem to predict the development of prejudice over time. For example, Miklikowska (2018) found that empathic concern and perspective taking predicted decreasing anti-immigrant attitudes. Van Zalk and Kerr (2014) showed that callous-unemotional personality traits (including lack of empathy, lack of guilt, and poverty in emotional expression) among nonimmigrant youth predicted lower decrease in prejudice toward immigrants.

Rejecting attitudes toward immigrants create a negative context for immigrant youth adaptation. For example, majority youth who hold negative attitudes toward immigrants or are surrounded by prejudiced peers were shown to be more likely to be involved in ethnic harassment against immigrants (Bayram Özdemir, Sun, Korol, Özdemir, & Stattin, 2018). The ethnic diversity in the classroom has been studied as a potential moderator of the link between prejudice and ethnic harassment. High ethnic diversity was found to play a protective role, in that youth in ethnically diverse classrooms were less affected by their parents' prejudice and less likely to harass their immigrant peers (e.g., Bayram Özdemir et al., 2018).

Schools and *classrooms* are frequent terms in Cluster 2-School & Peers. They play an important role in immigrant youth's lives since they support both their development and acculturation. Furthermore, they can be a safe haven for them especially if they live in disadvantaged neighborhoods which may be threatening and dangerous (Stattin, Svensson, & Korol, 2019), thus promoting their positive adaptation. The educational programs that schools adopt may have significant consequences for immigrant youth adaptation and well-being. In particular, programs that foster equality and inclusion and/or value cultural pluralism create a classroom climate that has beneficial effects on immigrant youth's school adjustment, acculturation, and psychological well-being (Schachner et al., 2018). Immigrant youth's perception of the school climate as democratic and positive relationships with teachers and peers buffer the negative effects of discrimination experiences and protect their adaptation and well-being (Bayram Özdemir & Stattin, 2014; Schachner et al., 2018). For example, teachers who value diverse classrooms and consider them an opportunity for enrichment rather than a burden have immigrant students with more positive ethnic identities (Brown & Chu, 2012).

The term *status*, referring to immigrant status, occurs more often in Cluster 2-School & Peers, which focuses on the school and peer context. Immigrant status is often examined as a potential risk factor for youth's adaptation. Studies on the immigrant paradox, which was high in the discourse among scientists during this decade (see García Coll & Marks, 2012), compared first- and second-generation immigrant youth adaptation and well-being to those of their nonimmigrant peers. The immigrant paradox was documented mostly in North America. In Europe, immigrant youth, both first and second-generation, have been reported to have lower academic achievement and academic motivation, more internalizing and externalizing symptoms (Dimitrova et al., 2016), higher school burnout (Salmela-Aro, Read, Minkkinen, Kinnunen, & Rimpelä, 2017), and worse conduct in the school context (Motti-Stefanidi et al., 2012), compared to their nonimmigrant peers. At the classroom level of analysis, classrooms with a higher concentration of immigrants may be a risk factor for all students' academic achievement (e.g. Motti-Stefanidi, 2014; OECD, 2010), but not necessarily for youth's emotional and behavioral symptoms (Georgiades, Boyle, & Fife, 2013).

The terms *peers* and *friendship* and, relatedly, the terms *ingroup*, *outgroup*, *rejection*, and *acceptance* also appear frequently in Cluster 2-School & Peers. Positive peer relations are important for immigrant youth's development and acculturation. Immigrant adolescents, like all adolescents, need to be liked and accepted by their peers, independently of the ethnicity of these peers, but they also need to navigate successfully between intra- and interethnic peers (Motti-Stefanidi & Masten, 2017). Immigrant status is a risk factor for peer relations, particularly in classrooms with low immigrant composition (Motti-Stefanidi, 2014; Titzmann, 2014). Immigrant students are less often accepted compared to their nonimmigrant classmates. However, over time, through intergroup contact, immigrant students who are the minority in their classrooms become increasingly more accepted by their nonimmigrant classmates (Motti-Stefanidi, 2014; Titzmann, 2014). Being accepted, particularly by nonimmigrant peers, predicts over time fewer symptoms of depression and higher self-esteem among immigrant youth (Motti-Stefanidi, 2020), as well as lower perceived ethnic discrimination (Reitz, Asendorpf, & Motti-Stefanidi, 2015). Interestingly, immigrant youth with mixed-ethnic friends report lower

perceived ethnic discrimination compared to those with same-ethnic friends (Kiang, Peterson, & Thompson, 2011).

Cluster 3-Neighborhood

The term *risk*, on the other hand, is mostly located in Cluster 3, which focuses on the neighborhood context. Characteristics of the neighborhood are studied as potential risk factors for adaptation and mental health. Examples are the concentration of neighborhood disadvantage (measured by concentrated poverty, unemployment rates, and the proportion of female-headed households) in shaping racial/ethnic disparities in sexual risk behavior (Carlson, McNulty, Bellair, & Watts, 2014), or the exposure to violence in the community and internalizing behaviors among minority youth (Chen, 2010).

However, characteristics of the neighborhood have also been studied as potentially protective for youth's adaptation and mental health in the face of different migration-related adversities. For example, neighborhoods with positive characteristics (low in crime, drugs, gangs, and graffiti) seem to protect immigrant youth against the negative effects of cultural stress on hope, aggression, and cigarette smoking (Lorenzo-Blanco et al., 2019). In another study, it was found that residential neighborhood immigrant concentration led to a cohesive, enclave-like community that protected against adolescent alcohol use (Jackson, Browning, Krivo, Kwan, & Washington, 2016).

Cluster 4-Family

The risk-related term *stress* and its derivatives (*stressor/stressful*) are mostly located in Cluster 4 which focuses on the family context with an emphasis on acculturation. Papers in this cluster link the term stress to different aspects of acculturation and mostly examine its effect on problematic behaviors. Examples are *cultural stress* as predictor of depressive and health risk behaviors (Lorenzo-Blanco et al., 2019), *bicultural stress* linked to alcohol expectancies and misuse (Oshri et al., 2014), or *acculturative stress* and *discrimination* linked to vulnerability to suicide attempts (Gomez, Miranda, & Polanco, 2011).

Language brokering, whereby children of immigrants provide informal translation and interpretation for their parents, are very frequent terms in Cluster 4-Family. Whether language brokering is a risk factor for immigrant youth adaptation and mental health seems to depend on a number of moderators. For example, strong family obligation and perception of parents as psychologically controlling predicted poorer psychological health (Hua & Costigan, 2012), feeling burdened by brokering (vs. feeling efficacious) predicted higher parent–child alienation and more depressive symptoms (Shen, Kim, & Benner, 2019), as well as higher family-based acculturation stress, and alcohol and marijuana use (Kam & Lazarevic, 2014).

The acculturation gap between immigrant parents and their children, whereby immigrant youth acculturate faster to the host culture than their parents, is also the focus in papers of Cluster 4-Family. It has been studied as a risk factor for family conflict and youth maladjustment (see Telzer, 2010). Youth's ethnic culture maintenance seems to moderate these findings. In one study, immigrant youth's orientation toward the ethnic culture, independently of parents' cultural orientation toward the ethnic or the national culture, predicted positive family functioning and youth's well-being (Telzer et al., 2016). In contrast, in another study, the degree of discrepancy between immigrant parents and their children in ethnic culture maintenance differentially predicted family functioning and adolescent adjustment. Being at least as closely attached to the ethnic culture as one's parents is optimal for adolescent adjustment (Schwartz et al., 2016).

Similarity analysis revealed that *perceived discrimination* often co-occurs with the term *stressor*, which is a frequent term in Cluster 4-Family. It is studied as a risk factor for immigrant youth adaptation and mental health together with potential moderators (Marks et al., 2015). For example, the effect of perceived discrimination on internalizing (Sirin et al., 2015) and externalizing symptoms (Miconi et al., 2018; Ponting et al., 2018) on substance use and psychosomatic symptoms (Walsh et al., 2018) and on the formation of ethnic and racial identities (Wang & Yip, 2020) has been studied. Potential protective factors of adaptation in the face of discrimination have also been the focus of researchers' attention. For example, a proactive coping style protected adolescents' self-esteem and academic motivation (McDermott, Umaña-Taylor, & Zeiders, 2019), and parents' ethnic socialization (e.g., Dimitrova, Johnson, & Van de Vijver, 2017) have been shown to protect their adaptation.

METHODOLOGICAL AND STATISTICAL APPROACHES FOR ADDRESSING DST PRINCIPLES

As was mentioned earlier, the resilience integrative model, which is grounded in developmental systems theory, provides the broad, overarching structure for asking risk and resilience research questions and contributes, together with the narrower, topic-specific conceptual models, to the formulation of hypotheses concerning immigrant youth adaptation. Developmental system theory provides the principles that guide the methodological and statistical approach that needs to be adopted to address the research questions.

According to the multiple level DST principle, young people are nested in their proximal contexts and these, in turn, are nested in the larger societal system, which is nested in a global system (Suárez-Orozco et al., 2018). How well immigrant youth will do depends on the resilient functioning of multiple systems facing the challenges resulting from migration (in press). Thus, to understand why some immigrant youth exhibit resilient adaptation whereas others have difficulty adapting, contexts at multiple levels need to be captured and analyzed. This requires a multilevel approach and multiple informants.

Over a third of the studies published, this last decade relies on multiple informants (self-reports, parent, peer, teacher, or school reports), and includes in the design an assessment of multiculturalism ideology at national and school levels (e.g., Brown & Chu, 2012; Sam, 2018), and nonimmigrants' attitudes toward outgroups or immigrants and refugees in particular (e.g., Beißert, Gönültaş, & Mulvey, 2020; Grütter & Tropp, 2018). Data are often analyzed through the use of multilevel models to account for the nestedness of individuals in schools, communities, or countries, and to examine the effect of higher-level contextual variables on immigrant youth adaptation (e.g., Leventhal & Shuey, 2014; Zimmerman & Farrell, 2017).

To capture developmental and acculturative changes in immigrant youth adaptation, as well as bidirectional and cascade effects, a longitudinal design is required (e.g., Van de Vijver, 2018; Wiley, Fleischmann, Deaux, & Verkuyten, 2019). Slightly over half of the papers published during the last decade abided by this longitudinal principle. We observed some large-scale projects (especially in North America and some in Sweden, Germany, the Netherlands, and Greece) with longitudinal surveys and sophisticated analyses, such as multilevel analyses, mixture growth models, and cross-lagged path models (e.g., Asendorpf & Motti-Stefanidi, 2017; Esteban-Gonzalo, González-Pascual, Cabanas-Sánchez, Izquierdo-Gómez, & Veiga, 2019). Furthermore, it becomes possible to disentangle developmental and acculturative changes by adopting a longitudinal design and sampling both immigrant and nonimmigrant youth. For example, Titzmann and Silbereisen (2012) studied the expectations of the timing for autonomy among immigrant and native German adolescents with a longitudinal survey and found a similar rate of change in autonomy expectations. They concluded that immigrant adolescents experienced more developmental than acculturative change.

A related principle is the bidirectionality principle. Traditionally, antecedents and outcome variables were clearly distinguished, both conceptually and in the statistical analyses (e.g., perceived discrimination negatively predicts adaptation and psychological well-being). However, testing for one direction of influence may at times be misleading. For example, Motti-Stefanidi, Masten, and Asendorpf (2014) examined the longitudinal link between academic achievement and school engagement. Based on the engagement hypothesis (Fredricks, Blumenfeld, & Paris, 2004), they expected that low engagement would predict over time decreases in academic achievement. However, following the bidirectionality principle, they tested both directions through cross-lagged panel models with longitudinal data. They found that both directions of influence were significant, but poor academic achievement drove increases in disengagement more than the other way around. This finding has serious implications, especially in the case of immigrant youths who had both poorer academic achievement and a steeper decrease in school engagement over time compared with their nonimmigrant peers.

Cross-lagged panel models with repeated measurements of target variables over time points have been frequently implemented (e.g., Aroian, Templin, & Hough, 2016; Updegraff, Umaña-Taylor, McHale, Wheeler, & Perez-Brena, 2012). In a relatively new development, bidirectional effects are modeled by finely separating between-person and within-person variations though the random-intercept cross-lagged models (Hamaker, Kuiper, & Grasman, 2015). Some studies have compared the conventional cross-lagged panel model and the random-intercept model to arrive at robust findings (e.g., Miklikowska, 2018). Relatedly, studies making

use of experimental designs and diary studies also contribute to our understanding of immigrant resilience (e.g., Sierksma & Shutts, 2020).

Beyond the principles of the resilience integrative model, it is important to draw attention to the need to ensure measurement invariance when comparing immigrant with nonimmigrant youth adaptation. Measurement invariance, which refers to the extent to which data from different groups are comparable, is a general principle in comparative research (Boer, Hanke, & He, 2018). A number of studies demonstrate, through the use of exploratory factor analyses, multigroup factor analyses, and longitudinal measurement invariance testing (e.g., Jugert & Titzmann, 2017; Keles, Friborg, Idsøe, Sirin, & Oppedal, 2018; Kim & Suárez-Orozco, 2015), that their measures are comparable. Especially in non-WEIRD (white, educated, industrialized, rich, and democratic) contexts, these advanced psychometric analyses are vital to ensure validity and comparability of measures adopted or adapted from the WEIRD sample.

Last but not least, the quantitative analyses on immigrant youth adaptation data should be complemented with qualitative evidence to maximize their ecological validity. For example, Panter-Brick et al. (2018) developed and tested an Arabic version of the Child and Youth Resilience Measure (CYRM) in Jordan to assess resilience in conflict settings. In a mixed-methods design, following qualitative work, surveys were implemented with male/female, refugee/nonrefugee samples. Confirmatory factor analyses tested three-factor structures for CYRM items and measurement equivalence across groups.

Other, more rare studies use qualitative methods to study resilience among immigrant and refugee youth. For example, Betancourt et al. (2015) conducted focus groups among Somali refugee youth living in the Boston area to identify acculturative and resettlement stressors as well as strengths and resources utilized by Somali refugee children and families in the Boston area to overcome resettlement and acculturative stressors. They used these findings to design preventative interventions that build on local strengths among Somali young people.

To summarize, the studies that have focused on individual differences in immigrant youth adaptation during this past decade have yielded rich data using both qualitative and quantitative methods. Even though they are rarely explicitly framed in a resilience developmental model, they have tested different developmental system theory principles.

FUTURE DIRECTIONS

The content analysis of the abstracts of studies focusing on individual differences in immigrant youth adaptation revealed that these studies were often guided by topic-specific conceptual models stemming from developmental, acculturation, and/or social psychological perspectives. As a result, the link between findings regarding what places at risk, and what matters for immigrant youth adaptation, which would allow a more complete understanding of the reasons some immigrant youth do well whereas other falter, is not evident.

We argued that extant evidence needs to be organized around an overarching conceptual framework which will allow us to best pull together what we know and discover what is still unknown. The resilience developmental model for understanding immigrant youth adaptation is comprehensive and heuristically useful for situating developmental, acculturation and social psychological perspectives, and for integrating related extant empirical evidence (Motti-Stefanidi & Masten, 2020; Suárez-Orozco et al., 2018). It can provide the structure that will help us see the connections between findings and understand how they may be potentially linked, leading to new research questions. For example, situating findings in an overarching model may reveal potential cascades between developmental and acculturative adaptation domains, or suggest potential interactions between the individual and systems at multiple levels of context which may lead to diverging pathways of adaptive functioning.

A significant number of studies on immigrant youth adaptation are still framed in negative terms, reminiscent of the stress hypothesis regarding migration (see Sam, Vedder, Liebkind, Neto, & Virta, 2008). Different risks, stressors, and adversities related to the migration experience are often studied as predictors of maladjustment or mental health problems. This observation seems to be more prevalent in North American studies on immigrant youth adaptation. Interestingly, since only first-generation youth are considered in North America to be immigrants, this observation contradicts the "immigrant paradox" whereby first-generation immigrants are better adapted than later-generation immigrants (García Coll & Marks, 2012). However, since most immigrant youth after an initial period in the host country adapt and do well, a resilience approach which focuses mainly on the strengths and resources that immigrant youth may have and on positive adaptation

outcomes, instead of focusing on potential adaptation difficulties and vulnerabilities, may provide a more hopeful emphasis on their potential for positive change.

The comparison of North American with European countries in the content analysis of abstracts of studies focusing on individual differences in immigrant youth adaptation revealed that these sites differ, first, in terms of the way immigrant status is defined, pointing to differences in who is considered by nonimmigrants to belong to the nation, which reflects a societal-level influence which is expected to have an impact on immigrant youth adaptation (see in press). Second, they differ with respect to their focus on risk outcomes or on positive adaptation. However, a key focus of research in both sites is on youth's proximal contexts (family, neighborhood, school, and peers) and on the same normative and immigration-specific promotive and protective factors for immigrant youth adaptation and mental health (for a review of promotive and protective factors for immigrant youth adaptation also see Suárez-Orozco et al., 2018).

Immigrant youth adaptation depends to large extent on the resilient functioning of multiple systems facing challenges brought about by migration. Even though the societal-level system is not the sole determinant of their adaptation, it plays a significant role, affecting them by filtering through the contexts of their proximal contexts (Motti-Stefanidi et al., 2012). Thus, multinational longitudinal studies could ascertain how societal-level differences related to the presence of immigrants in the country affect how effectively immigrant youth's proximal contexts and youth themselves address these challenges.

CONCLUSION

Migration flows during the past decade have rendered issues of immigrant youth adaptation a key concern, particularly because their adaptation is a key indicator of how well immigrants are doing in the host society (Motti-Stefanidi & Masten, 2020). This has resulted in a flurry of research activity focusing on individual differences in immigrant youth adaptation and mental health. The question that is of importance for all stakeholders, including states, local populations, and immigrant youth, is "who among immigrant youth do well, and conversely who among them have adaptation difficulties, and why?" A better-rounded knowledge of what is deleterious, what matters, and how it works to promote and/or protect immigrant youth positive adaptation, development, and acculturation can guide policies and practices by governments to address the welfare of young immigrant people whose future is tied to that of the receiving society. It is to the benefit of all stakeholders to have well-adjusted immigrants.

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