Acculturation Research: Proxies as Sources of Concept Obfuscation

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Proxies refer to gross global indicators of a construct that substitute for the more differentiated construct itself. Acculturation is commonly measured through the use of global indicants or proxies such as length of time in the country, age of arrival, and language spoken at home. In the present chapter, we present data from three generations of former Soviet refugees –adults, adolescents, and elderly– to explore how multiple proxies as indicants of acculturation relate to each other, to a self-report multidimensional measure of acculturation, and the extent to which all these measures predict one outcome often assessed in the acculturation literature: psychological distress. Results indicate that proxies are not interchangeable with one another or with self-report measures. In addition, they differ in their relationship to each other and to psychological distress across the three generations. These findings suggest that such proxies massively under-represent the acculturation construct and de-contextualize the experience of those who are in the process of acculturation. The present study suggests the importance of further deconstructing the acculturation concept conceptually and in terms of measurement.

Proxies in Acculturation Research

Acculturation has become a critical concept in cross-cultural and community psychology as both fields try to understand how the process of immigration and resettlement affects both those immigrating and those communities, schools, and agencies into which immigrants come (Birman, 1994; Sam & Berry, 2006). Cross-cultural psychology has been at the forefront of much of this work, and scholars such as Berry have crossed disciplinary boundaries to influence other fields as well (e.g., Berry, 2001).

Over time, the acculturation construct has become more differentiated in efforts to represent the complexities of the acculturation process more fully. For example, the earlier notion that acculturation represents the replacement of one culture by another has given way to an "orthogonal" conceptualization (Berry, Trimble, & Olmedo, 1986; Oetting & Beauvais, 1990) that states that acculturation occurs both with respect to the new culture and culture of origin. Indeed, more recent work suggests that multiple cultural identities are possible, and likely, depending on the population (Persky & Birman, 2005). In addition, the value of viewing acculturation as a multidimensional rather than a single overarching (omnibus) process is emerging. For example, Birman and colleagues (Birman, 1998; Birman & Trickett, 2001a; Birman, Trickett, & Vinokurov, 2002) found that the differing aspects of acculturation, such as language, behavior, and identity, unfold at different rates for different populations and that they relate to differing outcomes across varied life domains.

In addition, in recent years, the concept has moved far beyond its origins of focusing on the interaction of two or more distinct cultural groups to include the contact among subgroups in the same society whose migration was many generations ago. These include African Americans acculturating to the "mainstream" (e.g., white) society (Landrine & Klonoff, 2002), or 2nd generation Mexican-Americans who were born into and grew up in some unspecified combination of Mexican-American culture in the U.S. (Portes & Zhou, 1993). Such efforts to extend the term have not been adequately accompanied with a critical analysis of how the concept of acculturation may differ when extended to such variation of people in cultural context.

The conceptual developments in the acculturation field have not been fully mirrored in quantitative efforts to measure the construct. There are multiple measures of acculturation based on the self-report of immigrant and refugee populations (for an overview see Zane & Mak, 2003), several of which do reflect the understanding that the acculturation process is multidimensional and reflects potential changes in both the culture of origin and the new culture. While promising, quantitative indices of acculturation have been under attack for conceptual and psychometric reasons (Rudmin, 2003; Zane & Mak, 2003). In addition, and of central concern to the present chapter, the broad and multifaceted construct of acculturation has most often been measured through the use of global indicants, such as language spoken at home, length of time in the country, nativity/generational status, and age at immigration (Abraido-Lanza, Chao, & Florez, 2005; Clark & Hofsess, 1998; Salant & Lauderdale, 2003). Such indicants (many of which are temporal in nature) are referred to as "objective" (Escobar & Vega, 2000) or more typically "proxy" measures of acculturation (Abraido-Lanza et al., 2005; Hunt, Schneider, & Comer, 2004; Salant & Lauderdale, 2003). Webster's New Third International Dictionary (1986) defines "proxy" as "something serving to replace another thing or substance". At issue in the present chapter is the degree to which these global measures of acculturation are adequate substitutes for the multifaceted construct itself. There has been no empirical attention paid to this critical issue.

Not surprisingly, the acculturation literature emerging from multiple ways of assessing the construct has been confusing, contradictory, and non-cumulative. Landrine and Klonoff (2004), for instance, point out that:

"Data on acculturation and ethnic-minority health indicate that acculturation has opposite effects on the same health behavior among different ethnic groups; opposite effects on different health behaviors within an ethnic group; opposite effects on the same health behavior for the women vs. the men of most ethnic groups; and no effect whatsoever on some health behaviors for some ethnic groups. This evidence is so incoherent that it is unintelligible, and hence it continues to be largely useless to health psychology and behavioral medicine" (p. 530).

After reviewing the conceptual and measurement issues of current acculturation research, Escobar and Vega (2000) conclude that:

"A new era of multidisciplinary inquiry is needed that revisits basic assumptions about acculturation and rethinks the operational issues… Until such time as we have clarification of these important matters, we recommend suspending judgments about the necessity of including acculturation measures in peer reviewed research, or presupposing the meaning and value of acculturation measures in the absence of an explicit theoretical rationale for their inclusion. For the time being, we recommend a utilitarian and pragmatic approach. Objective variables (e.g., place of birth, age at arrival in the United States, years residing in the United Sates, primary language use including a measure of the proficiency of the second language), should be used either separately or in combination and tested as the initial predictors of outcomes of interest…. These demographic variables should be used in lieu of psychometric constructs of uncertain explanatory value until such time as scientific review, clarification, and recommendations can be made about the formulation, value, and appropriateness of acculturation measurement in health research" (p. 740).

And, most recently, writing in *Social Science and Medicine*, Hunt et al. (2004) review acculturation literature with Hispanics. They concur with the conclusions of Escobar and Vega that the use of acculturation measures be suspended in research with Hispanics.

"In the absence of a clear definition and an appropriate historical and socio-economic context, the concept of acculturation has come to function as an ideologically convenient black box, wherein problems of unequal access to health posed by more material barriers, such as insurance, transportation, education, and language, are pushed for the foreground, and ethnic culture is made culpable for health inequalities…Could the wide popularity of

the concept of acculturation in current US health research be a case of the "emperor's new clothes", nothing more than ethnic stereotypes wrapped in a cloak of scientific jargon woven out of sophisticated psychometric formulas?" (p. 982)

This combination of recommendations to (a) stop using acculturation measures until the conceptual and measurement issues are further developed and (b) replace them with gross measures, such as length of time in the country, is a gloom and doom conclusion of the first order and a clear challenge to a field such as cross-cultural psychology knowledgeable about the complexities of the acculturation process. The fact that this conclusion has come from multiple scholarly assessments of extant empirical work suggests that a theoretical answer or rejoinder will not suffice.

The present chapter adopts the perspective that such simplistic "solutions" as the use of gross acculturation indicants (as recommended by Escobar & Vega, 2000) represent the least useful response to confusion in the acculturation field over how to assess its central construct. Indicants such as length of time in the country or age at arrival, while easy to measure, massively under-represent the construct they are intended to measure and decontextualize the experience of those who are in the process of acculturation. As Portes and Rumbaut (1990) have made empirically clear, acculturation represents a process of "segmented assimilation" whose results are highly contingent on the context in which the acculturation occurs. Other research (Birman, Trickett, & Buchanan, 2005; Chiswick & Miller, 1996, 2001) found that ethnic density of the community of resettlement differentially affects acculturative patterns, including language acquisition. Both length of time and age of arrival thus make better conceptual sense as factors that interact with context than as decontextualized measures assumed to be equally valid across very different environments of resettlement.

In addition, when language is used as the sole indicator of acculturation, the dynamic linguistic patterns that characterize many immigrant and refugee families are overly simplified. With respect to the former, ethnographic studies suggest that there exist multiple language patterns at home between adults, adults and children, and between or among children (Li, 2000; Worthy, J., & Rodriguez-Galindo, 2006). For example, it is not unusual that children talking with each other at home may speak English to each other but another language when talking to parents, to whom they may talk in a combination of two languages. In such circumstances, the question "What language is spoken at home?" may not yield a meaningful or clearly interpretable response.

In addition, language is often presumed to reflect the presence of a whole set of cultural traits, and thus is judged to be an objective measure of individual level of acculturation (Hunt et al., 2004). Language, however, does not fully embody a person's culture and cannot account for the full extent of involvement of immigrants in the new society. Indeed, in a series of studies involving two generations of both Soviet Jewish and Vietnamese refugees, self-reported language competence (though not specifically language spoken in the home) was either modesty related or unrelated to self-defined cultural identity (Birman & Trickett, 2001a; Trickett & Jones, 2007). A language proxy of acculturation is thus empirically and theoretically indefensible in light of the conceptualization of acculturation as a dynamic and multidimensional process of adaptation and culture change.

Thus, while the field of acculturation research faces significant conceptual and empirical challenges, proxy measures represent, on a conceptual level, an extreme example of the simplification of the complexity of the acculturation process. While the conceptual case seems clear that such gross indices do not adequately represent the acculturation construct, there is a pressing empirical need to see (a) if and how these varied proxies relate to each other; (b) how they relate to self-report acculturation measures; (c) whether or not they yield comparable predictive outcomes, and (d) whether or not self-report acculturation measures add predictive variance to the relationship of proxies to outcomes. While but a baby step in the longer process

of construct elaboration, we have found no research that specifically addresses this critical piece of the acculturation research puzzle.

Method

The data reported here were collected as a part of a larger study examining psychosocial adaptation of Soviet Jewish refugees in Maryland across the three generations: adults, adolescents, and the elderly (Birman & Trickett, 2001b). A stratified random sample of adult refugees was selected from the lists of names provided by resettlement and community agencies that included all refugee arrivals from the former Soviet Union (FSU) to Maryland, USA for the specified period of time. Participants were contacted by telephone, and paper and pencil questionnaires in Russian were administered by bilingual interviewers in the participants' homes. The response rate was approximately 88%, and participants appear to be representative of Soviet refugees resettled in Maryland since the early 1990s with respect to age, former republic of origin, and level of education (Birman & Trickett, 2001b). The former Soviet adolescent sample consisted of all those adolescents in the consenting families of the adult sample. To develop a sample of elderly refugees, several different strategies were taken, including snowball sampling and recommendations from service providers knowledgeable about elderly Soviet Jewish refugees. All elderly participants were required to have arrived in the United States at age 55 or older. Based on preference of participants, the measures were administered in Russian to the adult and the elderly participants, while adolescents filled out the measures in English. Measures were translated using a back-translation decentering technique, with several bilingual mental health professionals and researchers comparing the English and Russian versions for equivalence (Brislin, 1980).

Participants

Adult participants were 458 refugees from the FSU who had lived in the United States from 5 months to 23 years (Mn = 5.78 years; SD = 3.22), were on average 47 years old (SD = 7.45) at the time of the study and 41 (SD = 6.94) on arrival. The vast majority (90%) were married, with relatively equal percentages of men and women (46% male; 54% female), and with the majority having college degrees (69%). Adolescent participants were 132 children of adult refugees who had lived in the United States from 5 months to 11 years (Mn= 5.74 years; SD = 3.12), were on average 15 years old (SD = 2.11) at the time of the study and 9 (SD = 3.65) on arrival, with more boys than girls participating in the study (58% male; 42% female). Elderly participants were 361 refugees who were on average 73 years of age (SD = 7.67) at the time of the study and 65 (SD = 8.12) at arrival, mostly females (60%), living in the U.S. an average of over 7 years (SD = 4.52), married (52%), and with the majority having college degrees (61%).

Measures

Demographic characteristics. Information about participants' age, gender, marital status, and education was collected.

Proxy measures. Four gross indicants of acculturation were assessed in the present study. We collected information about length of time in the United States and age of arrival. In addition, each participant rated how much they spoke English and Russian at home with ratings made on a 4-point Likert-type scale ranging from *not at all* to *very much*. These measures represent the proxies recommended at the beginning of this chapter by critics of more direct measures of acculturation (Escobar & Vega, 2000) as well as those most often employed in the acculturation literature.

Self-Reported Acculturation. The Language, Identity, and Behavior (LIB) Acculturation Scale (Birman & Trickett, 2001a) was used to assess three dimensions of acculturation using parallel items with respect to the American and Russian cultures. By selecting parallel items seen as relevant by respondents to both cultures, a respondent's relative stance with respect to

the two cultures could be determined. Instructions for the questionnaire clarified that the term *Russian* referred to the culture common to all émigrés from the FSU.

(1) *Language acculturation*. The Language Acculturation subscale consists of nine items asking respondents to rate their ability to speak and understand Russian and nine parallel items that ask about English. Questions ask how well respondents speak and how well they understand the language with friends, on the phone, with strangers, and in other situations. Ratings are made on a 4-point Likert-type scale ranging from *not at all* to *very well, like a native*. Cronbach's *α* coefficients of the English language acculturation were .90 for adolescents, .95 for adults, and .96 for the elderly. For the Russian language scale, Cronbach's *α* coefficient was .94 for the adolescent sample. For both adults and the elderly there was relatively low reliability for the Russian language scale (Cronbach's *α* coefficients were .47 for adults and .68 for the elderly) due to little variability, with almost all adults and elderly marking the (4) *very well, like a native* option for each question (Mean scores were 3.98 and 3.97). Such scores are to be expected as adult immigrants rarely lose their command of their native language. However, due to low reliability, the adults and elderly Russian language acculturation scores were not used in subsequent analyses.

(2) *Identity acculturation*. Respondents rate four items assessing the extent to which they consider themselves Russian/American, feel they are part of Russian/American culture, and are proud of being Russian/American. Ratings are made on a 4-point Likert-type scale ranging from *not at all* to *very much*. In the present samples, Cronbach's *α* coefficients ranged from .88 to .93 for the American identity and from .89 to .91 for the Russian identity.

(3) *Behavioral acculturation*. Ten parallel items ask about behavioral acculturation to each culture such as, "How much do you watch Russian/American movies on Russian/American TV channel/VCR?" "How much do you eat Russian/American foods?" and "How much do you socialize with Russian/American friends?" Items are rated on a 4-point Likert-type scale ranging from *not at all* to *very much*. Adolescents rate only eight items, as behaviors such as going to Russian/American doctors and shopping for Russian/American food are not as relevant for this age group. In the present study, Cronbach's *α* coefficients for American Behavior were .80 for the adults and elderly samples and .85 for adolescents; for Russian Behavior Cronbach's *α* coefficients were .77 for adults and elderly and .75 for adolescents.

Psychological distress. The 21-item version of the Hopkins Symptom Checklist (HSCL; Green, Walkey, McCormick, & Taylor, 1988) was used to assess symptoms of depression, somatic distress, and anxiety on a 4-point Likert-type scale ranging from 1 = *not at all distressing* to 4 = *extremely distressing* (adults *Mn* = 1.67, *SD* = .46; adolescents *Mn* = 1.73, *SD* = .57; elderly *Mn* = 2.04, *SD* = .53). Seven items assessing somatization were omitted in an adolescent sample as they were considered less relevant. In the present sample, Cronbach's *α* coefficients ranged from .84 to .90.

Results

Interrelatedness of proxies

The first research question involved the degree to which the four different acculturation proxies –length of time in the country, age of arrival, and language spoken at home (both Russian and English)– relate to each other. Correlational data are presented in Table 1. In general, the pattern of correlations shows relatively low degrees of relationship among the various proxies and for each of them across generations. For example, with respect to the language spoken at home, Russian language was negatively related to English language; this was relatively high for adolescents ($r = -.58$, $r^2 = .34$), but much less so for adults ($r = -.25$, $r^2 = .06$) and not at all among the elderly. Nearly all of the adults (96%) and the elderly (96%) spoke Russian as the primary language at home often or very often, while only slightly more than half of the adolescents (54%) did the same. Results concerning the English language spoken at home

complemented the finding for the Russian language. Specifically, while few of the adults (6%) and the elderly (5%) spoke English often or very often, a large proportion of adolescents (42%) used primarily English language at home.

Table 1. Intercorrelations among the four *proxy* variables, their correlations with the Acculturation measures & Psychological adjustment, and Descriptive Statistics

Demographic Indices	Generation Adults (N=458) Adolescents (N=132) Elderly (N=361)	Time in the U.S. r (% shared variance)	Age at arrival r (% shared variance)	English language at home r (% shared variance)	Russian language at home r (% shared variance)	Hopkins checklist	Mean (SD)
Time in the U.S.	Adults					.07	5.78 (3.22)
	Adolescents					-.10	5.74 (3.12)
	Elderly					-.08	7.34 (4.52)
Age at arrival	Adults	-.07				.12**	40.74 (6.94)
	Adolescents	-.82*** (67%)				.15	9.12 (3.64)
	Elderly	-.38*** (14%)				.09	65.47 (8.12)
English language spoken at home	Adults	.14** (2%)	-.19** (4%)			-.07	1.47 (.67)
	Adolescents	.29** (8%)	-.40*** (16%)			.03	2.34 (.98)
	Elderly	.19*** (4%)	-.26*** (7%)			-.08	1.33 (.65)
Russian Language spoken at home	Adults	-.11* (1%)	.03	-.25*** (6%)		.01	3.84 (.52)
	Adolescents	-.40*** (16%)	.50*** (25%)	-.58*** (34%)		.06	3.38 (.75)
	Elderly	-.10	.07	.01		-.01	3.86 (.53)
American Language	Adults	.43*** (18%)	-.34** (12%)	.35*** (12%)	.12* (1%)	-.18***	2.58 (.61)
	Adolescents	.41*** (17%)	-.41*** (17%)	.30** (9%)	-.27** (7%)	-.25**	3.78 (.38)
	Elderly	.26*** (7%)	-.47*** (22%)	.30*** (9%)	.01	-.24***	1.79 (.67)
American Identity	Adults	.35*** (12%)	-.07	.27*** (7%)	-.10* (1%)	-.07	2.22 (.85)
	Adolescents	.31*** (10%)	-.42*** (18%)	.43*** (18%)	-.40*** (16%)	-.13	2.86 (.96)
	Elderly	.33*** (11%)	-.14* (2%)	.28*** (8%)	-.04	-.07	2.35 (.96)
American Behavior	Adults	.33*** (11%)	-.34** (12%)	.38*** (14%)	-.14* (2%)	-.17***	2.69 (.52)
	Adolescents	.42*** (18%)	-.56*** (31%)	.48*** (23%)	-.42*** (18%)	-.15	3.58 (.43)
	Elderly	.20*** (4%)	-.34*** (12%)	.36*** (13%)	.05	-.16**	2.25 (.55)
Russian Language	Adults	--	--	--	--	--	--
	Adolescents	-.61*** (37%)	.62*** (38%)	-.38*** (14%)	.67*** (45%)	.10	3.21 (.75)
	Elderly	--	--	--	--	--	--
Russian Identity	Adults	-.21*** (4%)	-.10* (1%)	-.08	.13* (2%)	.04	2.90 (.96)
	Adolescents	-.11	.17	-.36*** (13%)	.38*** (14%)	-.06	3.31 (.80)
	Elderly	-.12* (1%)	.11* (1%)	.02	.09	.02	2.21 (.73)
Russian Behavior	Adults	-.08	.03	-.18*** (3%)	.20** (4%)	.11*	2.58 (.52)
	Adolescents	-.41*** (17%)	.51*** (26%)	-.26** (7%)	.55*** (30%)	.20*	2.78 (1.10)
	Elderly	-.11* (1%)	.19*** (4%)	-.07	.25*** (6%)	.10	3.01 (.53)

Note. *p < .05, ** p < .01, *** p < .001.

Small, though sometimes statistically significant, relationships are also found among the other proxies. As indicated in Table 1, for all three generations, the use of the English language at home increased with length of time in the country (correlations range from .14 to .29). Further, the use of the Russian language at home diminished over time for both adults ($r = -.11$) and adolescents ($r = -.40$), but not at all for the elderly. A test for the difference in these correlations was significant ($p<.0001$), suggesting a differential rate of decline in language use across generations. In addition, there was no overlap between length of residence and language spoken at home. Age of arrival showed a similar pattern of correlations with language usage at home, ranging from no relationship with use of Russian language at home for adults and elderly to a maximum correlation of .50 with respect to adolescent Russian language usage at home. Finally, we examined the relationship of length of residence to age at arrival, the two indicants that are most often used interchangeably in the acculturation literature. For the adolescent sample, a strong negative relationship was found between the proxies ($r = -.82$). For the elderly, the same relationship existed but it was much weaker ($r = -.38$). A test of the difference between these correlations indicated they were significantly different ($p<.001$) Finally, for the adult sample, length of residence and age at arrival were not related. Overall, of the 18 possible intercorrelations of the four proxies, in 13 instances (72% of the time) the indices are .30 or less, and occasionally have no relationship with each other at all. Thus, close scrutiny of the degree to which different gross acculturation measures related to each other suggests that in the vast majority of instances, they were far from interchangeable. In addition, they showed some statistically significant differences within them across immigrant generations.

Relationship of proxies with acculturation measures

The next research question was how these four proxies related to self-report acculturation measures. The correlation indices of these measures with each of the acculturative processes assessed by the LIB –Language (only for the adolescent sample), Identity, and Behavior– are also reported in Table 1. As was true with the relationship among the proxies themselves, there were some significant relationships between these gross measures and aspects of self-reported acculturation. In general, the relationships were somewhat numerically higher for adolescents than for adults or elderly. Overall, however, correlations were relatively small. For example, length of time in the country was positively correlated with each of the American acculturation subscales (correlations ranged from .20 to .43), and these relatively low indices suggest little overlap between length of residence and self-reported American acculturation. Little overlap between measures was also found with respect to time in the country and Russian acculturation measures, particularly for the elderly. With some variation, the same general conclusion holds true for the relationship of age of arrival and language of the home to self-reported acculturation.

Indeed, as indicated in Table 1, in a number of instances, these proxies appeared to have no relationship to self-reported acculturative processes with respect to either American or Russian cultures. Overall, in 22 (61%) of the 36 possible combinations of the four proxies with the three self-report indicators of American acculturation for all three generations, proxies show correlations of .35 or less. In 20 (71%) of the 28 possible combinations of the four proxies with indicators of Russian acculturation (Language acculturation not used for adults and elderly), a similar pattern of correlations was found. Overall, these findings suggest that the four gross measures of acculturation do not adequately reflect the multidimensional and variable nature of self-reported acculturation and indeed are often unrelated to them.

Relationship of proxies to psychological distress

The final research aim was to assess whether or not self-defined acculturation measures added predictive variance to the relationship of proxies to outcomes. To accomplish this, we conducted three multiple regressions, one for each generational sample. At the first stage, the four proxy variables were entered as a block. In the next step, the self-report acculturation measures were entered to explore how much variance in psychological distress they might add. Table 2 displays the results (standardized regression coefficients) of the first set of these multiple regression analyses by adding acculturation measures predictors to a regression model on the second step. After controlling for the proxy indicators, one unique predictor emerged across all three sets of regression analyses: American language (β values ranging from –.19 to –.29). For the adolescent sample, ΔR^2 was not significant, most likely due to lower power compared to the adult and adolescent samples, yet American language emerged as a significant predictor. Thus, only low English competency was predictive of increased psychological distress over and above variance accounted for by the proxy measures across the three generations of refugees.

Discussion

The present chapter emerged from concerns in the scholarly literature about the acculturation construct and its measurement. More specifically, it addressed one small but significant aspect of this larger concern: the use of multiple gross indicators that are presumed to approximate the acculturation construct, the relationship of such proxies to each other and to a self-report multidimensional measure of acculturation, and the relationship of these varied measures to one outcome often assessed in the acculturation literature: psychological distress. To the degree to which these measures are highly related to one another and to outcomes, they may be seen as comparable ways of assessing the acculturation construct. Lack of a strong relationship, however, would suggest that they are assessing different aspects of the

acculturation process and, as such, they might contribute to conflicting findings and continuing confusion about how acculturation literature can, over time, accumulate to provide a solid and trustworthy empirical foundation.

Table 2. Standarized regression coefficients of predictors accounting for variance in Psychological adjustment

Predictors	Adults		Adolescents		Elderly	
	Step 1	Step 2	Step 1	Step 2	Step 1	Step 2
Time in U.S.	.12*	.21	.06	.13	-.05	-.04
Age at arrival	.14*	.07	.21	.16	.06	-.05
English language spoken at home	-.05	.02	.11	.11	-.04	.01
Russian Language spoken at home	.05	.04	.06	.02	-.03	-.03
American Language		-.18*		-.29*		-.24**
American Identity		-.04		-.09		-.00
American Behavior		-.04		.13		-.01
Russian Language		--		-.05		--
Russian Identity		.02		-.09		-.07
Russian Behavior		.05		.17		.08
R^2	.04**	.08**	.03	.11	.01	.06
ΔR^2		.04**		.08		.05**

Note: R^2 = total variance in outcome variables accounted for by the regression model; ΔR^2 = increased amount of variance in outcome variables contributed by additional predictors added on each regression step. *$p < .05$, ** $p < .01$, *** $p < .001$.

The first research question addressed the degree to which gross indicants of acculturation, i.e., length of time in the country, age at arrival, and self-reported language spoken in the home, related to each other. Correlations among the varied proxies were quite consistent in showing that, while some statistically significant relationships exist among these measures, they are not highly correlated enough to be seen as interchangeable. Further, there are age cohort numerical differences in the relationships among them such that some are quite good substitutes for each other at one age but not at another.

In addition, while studies typically assess the resettlement country's language use at home in terms of a single language preference, we asked about home usage of both the Russian and English language. Here, as above, somewhat numerically different patterns emerged across generations. Both the adult and elderly samples retained a continuously high usage of Russian over time, while simultaneously increasing their use of English. For adolescents, length of time in the country was related both to increasing use of English and decreasing use of Russian. Thus, for adults and elderly, English language use was added to their use of Russian over time, while for adolescents English was more of a replacement. This pattern suggests that the linguistic portrait gathered by asking only about the dominance of one language in the home becomes increasingly muddied over time, and, again, reflects differing patterns across generations.

Data on the second question addressing the relationship of these proxies to the multidimensional self-report measure of acculturation likewise suggest that they are not useful substitutes for self-report. For example, while time in the country and age of arrival correlated consistently and significantly with increased American language, identity, and behavior, the median correlation was only .34. These proxies were even less related to level of Russian acculturation, reinforcing the conceptual point that acculturation can meaningfully be assessed both with respect to culture of origin and new culture, and that singular indicants may have differing implications for the two. Further, the different aspects of the self-report acculturation measure themselves correlated only modestly with each other, with the lowest correlations (not reported in the table) occurring between language and identity. This suggests that inferring such attributes as cultural identity when assessing only language competence is hazardous regardless of whether the assessment is through proxies or self-report.

The third and fourth questions addressed the issue of the relationship of all these measures to outcomes. There was only one significant correlation between the four proxies and psychological distress –age of arrival for adults. However, the self-report measure, particularly level of English competence and, to a lesser extent, American and Russian behavioral acculturation, showed several correlations with distress. This pattern further differentiates proxies from self-report measures, this time in relation to outcomes. Further, different directions of the correlations with respect to American and Russian behavioral acculturation suggest that the two cultures have differential relationships with psychological distress, with retention of the culture or origin being associated with greater distress and acquisition of the new culture with lower distress. Regressions reporting the unique contributions of the proxies and self-report measure to psychological distress confirmed this differentiated pattern. Here, age of arrival and time in the country performed relatively comparably, with both predicting psychological distress for adults. However, neither they, nor the language spoken at home, predicted distress for adolescents or elderly. American language competence, however, showed a very different pattern, contributing uniquely to decreased psychological distress across adolescents, adults, and elderly. With respect to the adult and elderly sample, whose home language remained Russian over time, this finding reinforces the notion that measures focusing solely on home language usage may not account for aspects of the acculturation process related to important outcomes.

Together, these findings suggest the importance in future work of addressing the conceptual assumptions behind most commonly used proxies, as such factors as length of time in the country, age of arrival, and language of the home do not necessarily represent a broad pattern of acculturation processes across multiple life spheres. In particular, the relatively low correlation between self-reported language competence and self-reported identity on the LIB Acculturation scale should lend caution to the use of home language as a broad indicant. Moreover, language competence is not precisely the same as language use. Indeed, in other writings (e.g., Birman & Trickett, 2001), we make the case that language use is more likely to reflect the context of the user than language competence *per se*, which more likely reflects a generalized and internalized skill. In the present study, for example, English language competence, as measured by the LIB, predicted psychological distress, while extent of English spoken at home (usage) did not. Overall, however, the present study is consistent with the concern expressed in the broader acculturation literature that the concept itself is in need of further deconstructing conceptually and in terms of measurement. To avoid challenges such as those posed by the scholars quoted at the beginning of the chapter, such work should take high priority.

There are several limitations to the present study, including the lack of variability in language spoken at home, drawing from a specific refugee population not well represented in the broader immigrant and refugee literature, and issues of common method variance in the relationships between self-report measures of acculturation and self-reported outcomes.

Additionally, the regression methods applied are of correlational nature as well, complicating the issue of causal inference. However, the differing patterns both within the proxies measured and self-report acculturation measures are stark enough to conclude that proxies used in the present study are not interchangeable with each other or with a multidimensional measure of acculturation either within or across generations.

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