Agricultural and Non-Agricultural College Students' Attitudes Towards Undocumented Migration

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Author Note

Conflict of interest
The authors declare that they have no known competing financial interests or personal relationships that could have appeared to influence the work reported in this paper.
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Abstract

An estimated 4,350,000 immigrants reside in Texas, comprising 20% of the workforce and wielding a spending power of up to $112.8 billion. Negative sentiment towards migrants has created a hostile environment, despite their substantial socio-economic contributions. Efforts to mitigate this sentiment involve youth education, targeting younger generations to reshape perceptions about immigrants and emphasize diversity's significance. This research assesses undergraduates' attitudes toward undocumented migration and compares agricultural (AGNR) and non-agricultural (non-AGNR) students' stances. In this quantitative study, 452 participants completed the 20-item Attitude Toward Illegal Immigration survey, assessing constructs like cost-benefit, free flow, and human rights. Descriptive statistics, Mann-Whitney U tests, and multiple regressions were employed to analyze and compare Free Flow (Model 1), Cost-Benefits (Model 2), Human Rights (Model 3), and the average attitude towards undocumented migration (Model 4). Results revealed a significant difference in undocumented migration scores. AGNR students slightly leaned against undocumented migration versus non-AGNR peers. Multiple regressions showed gender, ethnicity, and political inclination as significant predictors in both AGNR and non-AGNR models (cost-benefit, free flow, human rights, and undocumented migration). Further research should delve into these predictors' underlying reasons and replicate analyses in other US universities US using different approaches, such as a qualitative design.

Keywords: undocumented migration, agriculture, attitudes, college students, agriculture and migration.

Migrant workers are considered essential by the federal government because of their vital contribution to the country's food production and supply. They account for nearly a quarter of the workforce in the US food industry (Matthew et al., 2021). According to studies, roughly half of the farmworkers are undocumented, meaning they work in the US without authorization (Matthew et al., 2021). Even though undocumented migrant workers make significant contributions to the US economy, the extent of their struggles remains largely unexplored in research and unknown to the general public (Becerra, 2019).

Recurrent migration processes have reshaped the United States [US] agriculture workforce, increasing the linguistic, cultural, and educational diversity (United States Department of Agriculture [USDA], 2022), especially in the southern states (Martin, 2017; Minkoff-Zern & Sloat, 2017). For example, an estimated 4,350,000 documented and undocumented immigrants live in Texas, representing 20% of active workers, with a total spending power of up to 112.8 billion dollars (American Immigration Council [AIC], 2020). Moreover, the impact of immigrant labor on the Texan economy extends to encompass roughly 27% of employment within agriculture, forestry, fishing, and hunting sectors (AIC, 2020).

Despite the US being known for its long history as a country of immigrants and the acknowledged contributions of undocumented migrants (AIC, 2020; Becerra, 2019; Carlos Chavez, 2021; USDA, 2022), not everyone has welcomed new waves of immigration, resulting in a hostile environment for these workers and a negative attitude

towards immigrants (Domínguez, 2019; Martin, 2017). Although globalization has improved the view of migration, cultural differences can sometimes trigger xenophobia and racism (Abramitzky & Boustan, 2017). To combat negative sentiments in Texas, programs such as the Dallas Truth, Racial Healing & Transformation [DTRHT] and the Young Leaders Strong Cities [YLSC] (DTRHT, n.d; YLSC, n.d.) have been implemented to alter young people's perspectives on immigration and educate them on the significance of diversity.

Due to the positive influence that education could have on younger generations' attitudes toward immigrants (Qu et al., 2018), the government established the Hispanic-Serving Institutions to improve the academic attainment of Hispanic students, an immigration-related group. Since 2017, an R1-Southwestern University has been incorporated as part of the Hispanic Serving Institution group, investing in agricultural projects due to the well-recognized dependency on documented and undocumented Hispanic workers (Boessen et al., 2018). Recently, this university has received funding for agricultural-related programs focused on creating Spanish-oriented skills for undergraduate students (National Institute of Food and Agriculture Annual [NIFA], 2021a) and promoting agricultural-related experiential learning in Hispanic students (NIFA, 2021b).

This research aims to evaluate undergraduate students' attitudes toward undocumented migration [UM] and compare agricultural and non-agricultural-related students' attitudes. Considering that youth play an essential role in transforming society (Jaén & Barbudo, 2010), this study will help university programs, primarily agricultural-related, understand undergraduate students' attitude predictors towards undocumented migration and will facilitate the creation of educational curricula that reduce discrimination against undocumented migrants, including undocumented students at universities (Cavaille & Marshall, 2019).

Theoretical Framework

According to Myers (2013, p.36), attitude is "a favorable or unfavorable evaluative reaction toward something or someone, exhibited in one's beliefs, or intended behavior." Attitude could be considered a learned predisposition to respond to something favorable or unfavorable (Ajzen & Fishbein, 2000). Three components shape attitudes: cognitive, affective, and conative (Albarracin et al., 2005; Dennis et al., 2013). The cognitive component focuses on the thoughts, beliefs, and ideas about something (Stangor et al., 2014). When the human being is the object of attitude, the cognitive component is frequently a stereotype: "All people who speak Spanish are from Mexico," for example (Bessenoff & Sherman, 2000). The affective component is the emotions that something or someone causes (Arriaga & Agnew, 2001): "May dislike undocumented immigrants." Lastly, the conative attitude is the tendency or disposition to act in specific ways toward something or someone (Dennis et al., 2013): "Might want to keep undocumented migrants out of our country." The focus is on the intent to act, not the actual acting; what someone intends to do and what he does could be different.

Attitudes could also be classified depending on the context in which they are evaluated (Albarracin et al., 2005). Explicit attitudes are the results of thoughtful and conscious-level reflections about the evaluation of the attitude and are influenced when the individual is under observation. For instance, if individuals know their information could be discovered, they will try to adapt their responses to the perceived situational demands. Socially controversial issues like undocumented migration may make participants likely to avoid their genuine opinions. This implies that self-reports could be reflected by social desirability or social norms. On the other hand, the implicit attitudes on the unconscious level are involuntarily formed and are unknown to the individual. Implicit attitudes are less used to being fake and may be especially important when assessing attitudes toward controversial topics, such as undocumented migration (Albarracin et al., 2005).

Multiple repeated experiences with the same intention could generate an implicit attitude. When the individual repeats the situation with the object, they may have a positive, negative, or natural attitude, depending on which associations are activated (Stangor et al., 2014). People's lack of extensive experience with a specific social group opens the door to learning new information about this group and reduces prejudice (Hahn et al., 2014). This lack of experience might make people more likely to conserve their stereotypical knowledge, which forms the foundation for attitudes. The presence of members of a social group causes the activation of stereotypes and the activation of related attitudes (Bessenoff & Sherman, 2000). When a stereotype is negatively perceived, the attitude will follow the same shape (Fishbein, 2008). For this study, we intended to evaluate the implicit attitude by using an anonymous survey to reduce any social norm that could influence students' responses.

Purpose and Objectives

The study aims to evaluate and compare undergraduate students' attitudes towards undocumented immigration among students pursuing a degree in agricultural science and natural resources [AGNR] and students pursuing non-agricultural-related degrees [non-AGNR]. Four objectives were used to explain this study:

1. To describe undergraduate students' attitudes toward issues of undocumented immigration
2. To compare AGNR and non-AGNR undergraduate students' attitudes toward issues of undocumented immigration based on the cost-benefit, free flow, and human rights variables.
3. To compare AGNR and non-AGNR students' predictors (gender, political belief, ethnicity, migration familiarity, state of origin, and year in school) of the attitudes toward human rights (Model 1), free flow (Model 2), and cost-benefit (Model 3).
4, To compare AGNR and non-AGNR students' predictors (gender, political belief, ethnicity, migration familiarity, state of origin, and year in school) of the attitudes toward undocumented immigration issues (Model 4).

Methodology

For this quantitative study, a two-group model was used. A convenience sample of 520 undergraduate students from an R1-Southwestern University in the United States completed an online survey through Qualtrics. Before the data collection, the instrument was pilot-tested to determine its reliability and validity. A panel of experts confirmed the questionnaire's face validity and field-tested in a pilot study that included 20 undergraduate and ten graduate students.

After approval from the Human Research Protection Program, IRB 2019-805, the data collection was conducted during several lecture class periods, with prior permission from each professor, and by using an online survey through Qualtrics. Students' participation was voluntary, and their responses were treated anonymously. Data collected were transcribed and coded in Excel and later analyzed using Statistical Package for Social Sciences (SPSS) v. 27 and R v.4.2. The surveys with more than 10% missing values were deleted from the data analysis (Raaijmakers, 1999). Missing values for surveys with less than 10% missing data were imputed using multiple imputation procedures (Enders, 2017). After data cleansing, 68 outliers and extreme values were removed from the analysis using Cook's distance (Fox, 2015).

In total, 452 surveys were considered for the data analysis formed by AGNR (64.6%, n = 292) and non-AGNR (35.4%, n = 160). The non-AGNR students' colleges were grouped by Art and Sciences (10.2%, n = 46), Human Sciences (7.7%, n = 35), Business Administration (6.4%, n = 29), Media and Communication (5.1%, n =23), Engineering (2.7%, n =12), Education (0.9%, n = 4), School of Law (0.2%. n = 1), and others (2.2%, n =10).

Instrument

The instrument consisted of two sections: demographic information and the Attitude Toward Illegal Immigration Scale (Ommundsen & Larsen, 1997). This scale has been implemented in several contexts using 27 items (Ommundsen & Larsen, 1997) and 20 items (Ommundsen et al., 2002). The Scale was adjusted by removing item 9 because it violated the multicollinearity assumption and adding a new item to evaluate attitudes towards undocumented jobs. The following statement was included: "Employers are allowed to hire undocumented migrants."

The final questionnaire consisted of 20 5-point Likert-type questions (1 = strongly disagree, 2 = agree, 3 = neither agree nor disagree, 4 = agree, and 5 = strongly agree). Previous studies that used the Attitude Toward Illegal Immigration Scale have reported that the instrument could be influenced by participants' culture (Ommundsen et al., 2002), with factors ranging from three to seven (Ommundsen et al., 2007; Van Der Veer et al., 2004). In the US, the three-factor model has been found to be the best arrangement (Ommundsen et al., 2002; Van Der Veer et al., 2004). A confirmatory factor analysis [CFA] was conducted to verify this model fit, $X2\ (171) = 5446.28$, $p < .001$ CFI = 0.95, Root Mean Square Error Approximation [RMSEA] = 0.06 (Kenny, 2016; Prudon, 2014). Thus, we decided to use the three-factor model measuring: (1) Cost/Benefit, (2) Free Flow, and (3) Human Rights (Ommundsen et al., 2002; Van Der Veer et al., 2004).

Cost Benefit

This variable is related to the economic cost to society and the benefit that immigrants could add in terms of human resources to society (Ommundsen et al., 2002). To measure this variable, the participants selected their level of agreement with nine items. The interitem consistency was acceptable ($\alpha = .80$) (Rubin & Babbie, 2009).

Free Flow Variable

This variable evaluated the immigrants' free flow from a foreign country to the United States. Four items were part of this construct, and the interitem consistency was acceptable ($\alpha = .80$) (Rubin & Babbie, 2009).

Human Rights Variable

This variable is related to immigrants' human rights, such as the right to have a job and access to health assistance. Seven items were considered part of this variable, and the interitem consistency was acceptable ($\alpha = .88$) (Rubin & Babbie, 2009).

Data Analysis

Since data were not normally distributed and a non-probabilistic sampling was used, non-parametric analyses were considered during the analysis. Descriptive statistics, mean and standard deviation, were used to answer objective one. For objective two, four Mann-Whitney U tests examined the differences between AGNR and non-AGNR for cost-benefit, free flow, human rights, and the averaged undocumented migration variables. An alpha level of .05 was established a priori.

For objective three, three models were run to explain and compare the level of prediction among attitudes toward migration variables. All models were evaluated based on the students who belonged to AGNR and those who did not. Before the regression analyses, a Pearson's correlation was used to determine the relationship between key variables and to check for collinearity. Based on prior knowledge, only one co-related pair of variables was selected to be included in the regression models. In addition, researchers also ensured that the data met primary assumptions. All models included gender, ethnicity, year in school, political beliefs, migration familiarity, and state of origin variables predicting free flow (Model 1), cost/benefits (Model 2), and Human Rights (Model 3).

For objective four, the 20 items were averaged to create the overall attitude toward the undocumented migration variable. Gender, year in school, ethnicity, political beliefs, migration familiarity, and state of origin variables were used to predict attitudes toward undocumented migrants (Model 4).

Results

Demographic characteristics of both AGNR (*n* = 292) and non-AGNR (*n* = 160) students were similar. Most students were female, AGNR (68.3%, *n* = 198); non-AGNR students (49.4%, *n* = 79). In AGNR, most of the participants were first-year students (57.5%, *n* = 168), while for non-AGNR students, most were sophomores (32.5%, *n* = 52) and juniors (29.4 %, *n* = 47). Regarding ethnicity, the majority considered themselves non-Hispanic (AGNR 82.5%, *n* = 241; non-AGNR 74.7%, *n* = 118).

Most AGNR students had a conservative political inclination (62.0%, *n* = 181). Non-AGNR students' political belief was distributed more equally, where 38.8% had a conservative inclination (*n* = 62), moderate (31.9%, *n* = 51), liberals (18.8%, *n* = 30), and other (10.6 %, *n* = 17). Most AGNR participants had little familiarity with undocumented immigrants (63.4 %, *n* = 185), similar to the non-AGNR group (57.5 %, *n* = 92). Most AGNR and non-AGNR students came from a border state, 72.9% (*n* = 213) and 70.0% (*n* = 112), respectively. Table 1 shows the general and specific distribution by gender, school year, ethnicity, political beliefs, migration familiarity, and state of origin.

For objective one, to describe undergraduate students' attitudes toward undocumented immigration. The descriptive statistics revealed that participants agreed with the following statements: undocumented migrants should not benefit from tax dollars (*M* = 3.71, *SD* = 1.17), undocumented migrants cost the US millions of dollars each year (*M* = 3.57, *SD* = 1.09) and undocumented migrants should be excluded from social welfare (*M* = 3.49, *SD* = 1.13). However, participants also pointed out that undocumented migrants: have rights too (*M* = 3.54, *SD* = 1.10), should not be discriminated against (*M* = 3.52, *SD* = 1.12), and provide the US with a valuable human resource (*M* = 3.22, *SD* = 1.05).

Most participants disagreed with their taxes being used to help those residing without documentation in the US (*M* = 2.31, *SD* = 1.13), international borders should be open (*M* = 2.06, *SD* = 1.14), and the government should pay for undocumented migrants care and education (*M* = 2.21, *SD* = 1.11). The majority also disagreed that undocumented migrants who give birth in the US should be made citizens (*M* = 2.88, *SD* = 1.13) and that undocumented migrants should be eligible for welfare (*M* = 2.32, *SD* = 1.12). Although participants felt undocumented migrants are infringing the country's resources (*M* = 3.40, *SD* = 1.21) and that they do not deserve the same rights as US citizens (*M* = 3.50, *SD* = 1.16), they did not consider undocumented migrants a nuisance to society (*M* = 2.54, *SD* = 1.13).

Participants were undecided with the following immigration statements: access to the country is too easy (*M* = 2.95, *SD* = 1.18), the US is responsible for caring for non-citizens (*M* = 3.17, *SD* = 1.16), undocumented immigrants should be forced to go back to their own countries (*M* = 2.95, *SD* = 1.21), and employers should be allowed to hire undocumented migrants (*M* = 3.12, *SD* = 1.21). These findings highlight the complexity and diversity of opinions on immigration in the study's sample. Table 2 shows the descriptive statistics for the 20 items, based on the AGNR and non-AGNR groups.

A Mann-Whitney U test was conducted for objective two to compare the perspectives on undocumented migration between students in AGNR and non-AGNR programs. The results showed that the distributions of scores were not the same for all the dependent variables, as determined by visual inspection. There was a significant difference in undocumented migration scores (*U* = 30836.50, *z* = 5.63, *p* < .001), with AGNR students having a slightly negative view (Mean Rank = 200.90, *M* = 2.61, *Mdn* =2.60, *SD* = 0.79) compared to non-AGNR students who were undecided (Mean Rank = 273.23, *M* = 3.10, *Mdn* =3.03, *SD* = 0.84). The Mann-Whitney U test revealed significant differences for all other dependent variables: cost-benefit (*U* = 29663.50, z = 5.01, *p* < .001), free flow (*U* = 31701.0, *z* = 6.58, *p* < .001), and human rights (*U* = 28428.50, z = 4.18, *p* < .001). In each case, AGNR students had a slightly negative view compared to non-AGNR students who were undecided. These results suggest that AGNR students have different perspectives on undocumented migration than non-AGNR students.

For objective three, three regression models were run to compare the human rights, cost-benefit, and free-flow prediction models from AGNR and non-AGNR groups. Model 1 used gender, ethnicity, political belief, familiarity with undocumented migration, and school year as predictors for free flow. Assumptions analysis revealed independence of residuals assessed by Durbin-Watson statistics of 1.80 for AGNR and 1.99 for non-AGNR. Data were homoscedastic, as evaluated by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no multicollinearity, as evaluated by tolerance values greater than 0.1. No studentized deleted residuals were over ±3 standard deviations, and no leverage values greater than 0.2 or values for Cook's distance above 1.

The prediction models for attitude towards free flow were significant for both AGNR, $F(11,266) = 11.96$, $p < 0.01$, $R^2 = .33$, adj. $R^2 = .30$, and non-AGNR, $F(11,139) = 6.55$, $p < 0.01$, $R^2 = .34$ adj. $R^2 = .39$. For AGNR, significant predictors were gender (*B* = .35, *SE*= .11, β = .18, *p* < .001), ethnicity (*B* = .44, SE = .14, β = .17, *p* = .01), liberals (*B* = 1.20, *SE*= .30, β = .31, *p* < .001), moderate (*B* = .54, *SE*= .24, β = .26, *p* = .02), and having little familiarity (*B* = .22, *SE*= .11, β = .11, *p* =.04). Year in school, conservative political beliefs, state of origin, high migration familiarity, and migration unfamiliarity were not statistically significant predictors. For the non-AGNR group, ethnicity (*B* = .35, *SE*= .13, β = .16, *p* = .03) and conservative (*B* = -.57, *SE*= .23, β = -.31, *p* = .01) were statistically significant predictors (*p* < .05). Gender, familiarity with undocumented migrants, liberal and moderate political beliefs, and year in schools were not significant predictors.

The free flow attitude among AGNR females was .35 higher than that of males. Hispanic AGNR students had a .44 higher attitude than non-Hispanics. Liberal AGNR students had a 1.20 higher attitude than students with other political beliefs; moderate AGNR students had a .54 higher attitude than students with different political beliefs. AGNR students with little familiarity with migration had a .22 higher attitude towards free flow than students with different migration familiarity experiences. For non-AGNR, Hispanic students

Table 1

Summary of Sociodemographic information

	Total (*N* = 452)		AGNR (*n* = 292)		Non-AGNR (*n* = 160)	
Characteristics	***F***	***%***	***F***	***%***	***f***	***%***
Gender						
Female	277	61.3	198	31.7	79	49.4
Male	170	37.6	92	68.3	78	48.8
Prefer not to say	5	1.1	2	0.7	3	1.9
School Year						
First-year	207	45.8	168	57.5	39	24.4
Sophomore	101	22.3	49	16.8	52	32.5
Junior	92	20.4	45	15.4	47	29.4
Senior	52	11.5	30	57.5	22	13.8
Ethnicity						
Hispanic	87	19.2	47	16.1	40	25.3
Non-Hispanic	359	79.4	241	82.5	118	74.7
Prefer not to say	6	1.3	4	1.4	2	1.3
Political Beliefs						
Conservative	243	53.9	181	62.0	62	38.8
Moderate	130	28.8	79	27.1	51	31.9
Liberals	47	10.4	17	5.8	30	18.8
Other	32	7.1	15	5.1	17	10.6
Migration						
Familiarity						
High	147	32.5	93	31.8	54	33.8
Little	277	61.3	185	63.4	92	57.5
Nothing	28	6.2	14	4.8	14	8.8
State of Origin						
Border	325	71.9	213	72.9	112	70.0
Non-Border	112	24.8	70	24.0	42	26.3
International	3	0.7	1	0.3	2	1.2
Prefer not to say	12	2.7	8	2.7	4	2.5

Table 2

Undocumented Migration Items Description

Statements	Total (*N* = 452)		AGNR (*n* = 292)		Non-AGNR (*n* = 160)	
	M	*SD*	*M*	*SD*	*M*	*SD*
1. UM should not benefit from my tax dollars	3.71	1.17	3.83	1.14	3.50	1.19
2. Our taxes should be used to help those residing without documentation in the US	2.31	1.13	2.14	1.06	2.62	1.19
3. There is enough room in this country for everyone	3.11	1.20	2.86	1.16	3.57	1.14
4. UM are not infringing on our country's resources	2.60	1.21	2.35	1.09	3.04	1.28
5. UM are a nuissance to society	2.54	1.13	2.72	1.11	2.21	1.10
6. There should be open international borders	2.06	1.14	1.87	.99	2.41	1.30
7. Access to this country is too easy	2.95	1.18	3.14	1.14	2.61	1.17
8. UM attitudes should be excluded from social welfare	3.49	1.13	3.61	1.10	3.28	1.15
9. UM who give birth to children in the US should be made citizens	2.88	1.13	2.78	1.05	3.06	1.25
10. UM cost the US millions of dollars each year	3.57	1.09	3.73	1.05	3.29	1.11
11. UM should be eligible for welfare	2.32	1.12	2.17	1.06	2.61	1.17
12. UM provide the US with a valuable human resource	3.22	1.05	3.06	1.07	3.52	.96
13. The government should pay for the care & education of UM	2.21	1.11	2.03	1.00	2.53	1.22
14. UM should not have the same right as US citizens	3.26	1.29	3.40	1.25	2.99	1.32
15. UM have rights too	3.54	1.10	3.36	1.12	3.87	.98
16. Taking care of people from other nations is not the responsibility of the US	3.17	1.16	3.34	1.11	2.87	1.21
17. All UM deserve the same rights as US citizens	2.50	1.16	2.30	1.07	2.87	1.25
18. UM should be forced to go back to their own countries	2.95	1.21	3.20	1.17	2.49	1.14
19. UM should not be discriminatied against	3.52	1.12	3.28	1.11	3.96	1.01
20. Employers should be allowed to hire UM	3.12	1.21	3.02	1.16	3.30	1.27

Note. UM = Undocumented Migrants; Attitudes' Likert Scale (1 = Strongly disagree, 2= Disagree, 3= Neither agree nor disagree, 4= agree, and 5 = Strongly agree)

had a .35 higher attitude than non-Hispanic students, and conservative students had a .57 lower attitude than students with other political beliefs. Table 3 shows the significant predictors for undergraduate attitudes toward free flow in undocumented migration.

For the undocumented migration cost-benefit attitude prediction model, results of assumptions analysis showed independence of residuals assessed by Durbin-Watson statistics of 1.57 for AGNR and 1.81 for non-AGNR. Data were homoscedastic, as evaluated by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity as assessed by tolerance values greater than 0.1. Any case was reported with studentized deleted residuals greater than ±3 standard deviation, no leverage values greater than 0.2, and values for Cook's distance above 1.

The models for AGNR, $F(11, 266) = 13.87$, $p < 0.01$, $R^2 = .37$, adj. $R^2 = .34$, and non-AGNR, $F(11, 139) = 6.82$, $p < 0.01$, $R^2 = .35$, adj. $R^2 = .30$, were both significant. For the AGNR group, ethnicity ($B = .33$, $SE = .13$, $\beta = .14$, $p < .001$), political belief (conservative: $B = -.63$, SE = .20, $\beta = -.35$, $p < .001$, liberals: $B = .97$, SE = .27, $\beta = .27$, $p < .001$), border state [BS] ($B = -.20$, SE = .10, $\beta = -.10$, $p = .04$), and little familiarity with migration ($B = .23$, $SE = .10$, $\beta = .12$, $p = .02$) were statistically significant predictors ($p < .05$). Gender and year in schools were not significant predictors. In the non-AGNR group, gender ($B = .33$, $SE = .13$, $\beta = .19$, $p = .01$), ethnicity ($B = .40$, SE = .16, $\beta = .19$, $p = .01$), and political belief (conservative: $B = -.65$, $SE = .22$, $\beta = -.35$, $p = .01$) were significant predictors ($p < .05$). Year in schools, and state of origin were not significant predictors.

For undocumented migration cost-benefit attitude, Hispanic AGNR students had a .33 higher attitude than non-Hispanics; conservative AGNR students had a .63 lower attitude than students with other political beliefs; liberals CASNR students had a .97 higher attitude than students with different political beliefs. AGNR Border state students had a .20 lower attitude than non-border states; AGNR students with little migration familiarity had a .23 higher attitude than students with another migration familiarity. For non-AGNR, female students had a .33 higher attitude than males; Hispanic students had a .40 higher attitude than non-Hispanics, and conservative students had a .65 lower attitude than students with other political beliefs. Table 4 shows the significant predictors for undergraduate attitudes toward undocumented migration cost benefits.

For the undocumented migration human rights attitude prediction models, results of assumptions analysis showed independence of residuals assessed by Durbin-Watson statistics of 1.75 for AGNR and 1.88 for non-AGNR. Data were homoscedastic, as evaluated by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. No cases were reported with studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1.

Both prediction models, AGNR, $F(11, 266) = 9.33$, $p < 0.01$, $R^2 = .28$, adj. $R^2 = .25$, and non-AGNR, $F(11, 139) = 6.06$, $p < 0.01$, $R^2 = 32$ adj. $R^2 = .27$, were significant. For the AGNR group, gender, ($B = .28$, $SE = .09$, $\beta = .19$, $p < .001$), ethnicity ($B = .26$, $SE = .11$, $\beta = .14$, $p = .01$), conservative ($B = -.39$, $SE = .18$, $\beta = -.27$, $p = .03$), and liberals ($B = .61$, $SE = .23$, $\beta = .21$, $p = .01$) were statistically significant predictors ($p < .05$). Year in schools, state of origin, and undocumented migration familiarity were not statistically significant predictors. For the non-AGNR group, gender ($B = .41$, $SE = .10$, $\beta = .31$, $p < .001$) and ethnicity ($B = .28$, $SE = .13$, $\beta = .18$, $p = .03$) were statistically significant predictors ($p < .05$). Years in school, political beliefs, state of origin, and undocumented migration familiarity were not significant predictors.

For AGNR students' attitude toward equal human rights, female students had a .28 higher attitude than males;

Table 3

Multiple Regression Predicting Undergraduate Attitude towards Free flow (N = 452).

	AGNR (*n* = 292)			Non-AGNR (*n* = 160)		
Predictors	***B***	**SE**	**B**	***B***	**SE**	**B**
Constant	2.14**	.26		3.32**	.29	
Gender	.35	.11	.18**	.24	.14	.13
Ethnicity	.43	.14	.17*	.35	.16	.17*
Conservative	-.18	.23	-.9	-.57	.23	-.31*
Moderate	.54	.24	.26*	.11	.23	.05
Liberals	1.20	.30	.31**	.52	.26	.22
Little F	.22	.11	.11*	.07	.14	.04
		$R^2 = .33$			$R^2 = .34$	
		$R^2adj = .30$			$R^2adj = .29$	

*Note. ** p < .001; * p < .05; Little F = Little Familiarity with migration*

Table 4

Multiple Regression Predicting Undergraduate Attitude towards Cost-Benefit (N = 452)

	AGNR (n = 292)			Non-AGNR (n = 160)		
Predictors	***B***	**SE**	**β**	***B***	**SE**	**B**
Constant	2.67**	.23		2.69**	.28	
Gender	.13	.10	.07	.33	.13	.19*
Ethnicity	.33	.13	.14*	.40	.16	.20*
Conservative	-.63	.20	-.35**	-.65	.22	-.36*
Moderate	.97	.27	.27**	.38	.26	.16
Liberals	-.20	.10	-.10*	.10	.14	.06
Little F	.23	.10	.13*	.25	.14	.14
		R^2 = .37			R^2 = .35	
		R^2adj = .30			R^2adj = .30	

*Note. ** p < .001; * p < .05; Little F = Little Familiarity with migration*

Hispanic students had a .26 higher attitude than non-Hispanic; conservative students had a .39 lower attitude than other political beliefs; liberal students had a .61 higher attitude than those with different political beliefs. For the non-AGNR group, female students had a .41 higher attitude than males. Hispanic students had a .28 higher attitude than non-Hispanic. Table 5 shows the significant predictors for undergraduate attitudes toward undocumented migration human rights.

For objective four, two multiple regressions, one for AGNR and non-AGNR students, were run to predict attitudes towards undocumented migration from gender, ethnicity, undocumented migrants' familiarity, political beliefs, and year in school. For the undocumented migration prediction model, assumptions analysis results showed independence of residuals assessed by Durbin-Watson statistics of 1.54 for AGNR and 1.72 for non-AGNR. Data were homoscedastic, as evaluated by visual inspection of a plot of studentized residuals versus unstandardized predicted values. There was no evidence of multicollinearity, as assessed by tolerance values greater than 0.1. No cases were reported with studentized deleted residuals greater than ±3 standard deviations, no leverage values greater than 0.2, and values for Cook's distance above 1.

For both groups, the multiple regression models statistically significant predicted attitudes towards undocumented migration, AGNR, $F(11,266) = 18.32$, $p < 0.01$, $R^2 = .43$, adj. $R^2 = .41$; non-AGNR, $F(11, 139) = 9.38$, $p < 0.01$, $R^2 = .43$, adj. $R^2 = .38$. For AGNR group, gender ($B = .22$, $SE = .09$, $\beta = .13$, $p = .01$), ethnicity ($B = .46$, $SE = .11$, $\beta = .21$, $p < .001$), conservative ($B = -.52$, $SE = .18$, $\beta = -.32$, $p = .01$), and liberals ($B = .96$, $SE = .23$, $\beta = .29$, $p < .001$) were statistically significant predictors ($p < .05$). Undocumented migrants' familiarity, state of origin, and year in school showed as not statistically significant predictors. For the non-AGNR group, gender ($B = .36$, $SE = .12$, $\beta = .21$, $p = .01$), ethnicity ($B = .38$, $SE = .14$, $\beta = .20$, $p = .01$), conservative ($B = -.58$, $SE = .19$, $\beta = -.34$, $p = .01$), liberals ($B = .49$, $SE = .23$, $\beta = .22$, $p = .04$) were statistically significant predictors ($p < .05$). Familiarity with undocumented migrants, state of origin, and year in school were not significant predictors.

For the AGNR group, female AGNR students had a .22 higher attitude than men; Hispanic students had a .46 higher attitude than non-Hispanic students; conservative students had a .52 lower attitude than other political beliefs; liberal students had a .96 higher attitude than those different political beliefs. For the non-AGNR group, female students had a .36 higher attitude than males; Hispanic students had a .38 higher attitude than non-Hispanic; conservative students had a .58 lower attitude than other political beliefs; liberal students had a .49 higher attitude than different political beliefs. Table 6 shows the significant predictors for undergraduate attitudes toward undocumented migration.

Discussion & Implications

This research addresses a crucial gap in the understanding of undergraduate students' attitudes toward undocumented migration. This study has the potential to inform the development of immigration policies and improve intercultural collaboration. As future decision-makers, undergraduates will play a crucial role in shaping the future of migration policies (Cavaille & Marshall, 2019). This research will offer valuable perspectives for policymakers to comprehend the views of their constituents regarding undocumented migrants and develop policies that accurately reflect the needs and opinions of their constituents.

According to the International Organization for Migration (n.d.), regular migration is "a movement that occurs in compliance with laws of the country of origin, transit, and destination." In contrast, irregular migration is "a movement of persons that takes place outside the laws, regulations, or international agreements governing the entry into or exit

Table 5

Multiple Regression Predicting Undergraduate Attitude towards Human Rights (N = 452)

	AGNR (n = 292)			Non-AGNR (n = 160)		
Predictors	***B***	**SE**	**β**	***B***	**SE**	**B**
Constant	2.92**	.20		2.74**	.22	
Gender	.28	.09	.19**	.41	.10	.31*
Ethnicity	.26	.11	.14*	.28	.12	.18*
Conservative	-.39	.18	-.27**	-.23	.17	-.17*
Liberals	.61	.23	.21*	.38	.26	.16
		R^2 = .28	.		R^2 = .32	
		R^2adj = .25			R^2adj = .27	

*Note. **p <.001; *p <.05*

from the State of origin, transit or destination." The Attitudes Towards Undocumented Immigration Scale (Ommundsen & Larsen, 1997) has been used to measure attitudes toward undocumented migration. Future research should differentiate between attitudes towards documented and undocumented migration, particularly among agricultural and non-agricultural students. This distinction will provide a more nuanced understanding of students' perspectives and attitudes towards migration, as they may differ based on legal status (Qu et al., 2018).

Results showed that items: (3) "There is enough room in this country for everyone," (4) "Undocumented Migrants are not infringing on our country's resources," (18) "Undocumented Migrants should be forced to go back to their own countries" and (19) "Undocumented Migrants should not be discriminated against" had the higher mean difference (< .68) among AGNR and non-AGNR group. In all the items, non-AGNR had a more optimistic attitude towards undocumented migration. One of the potential reasons for the student's differential attitudes could be the non-AGNR group's academic college and majors; fields such as art and sciences (10.2%, *n* = 46) and human sciences (7.7%, *n* = 35), have higher migration-related knowledge since they studied as part of their academic curricula (Richter, 2021).

The implicit attitudes conceptual framework used in this study expressed that implicit attitudes are those that are presented under an unconscious level and could be assessed during an anonymous evaluation (Albarracin et al., 2005). The implicit attitudes could be generated by repeated experiences with the same individual or situation (Stangor et al., 2014). These experiences can help reduce prejudice against the individual or action. In this study, we evaluated the students' implicit attitude toward undocumented migration and used migration familiarity as part of the predictors. Therefore, it would be important to consider redesigning the agricultural-related students' curriculum and adding a migration-based course so students can have more knowledge about migration issues.

The results of the Mann-Whitney tests indicated that AGNR students had a slightly negative attitude towards undocumented migration, while non-AGNR students displayed a neutral stance, consistent with the findings of Qu et al. (2018) research, who noted that students often have ambivalent opinions on the subject. This disparity may be due to the political leanings of AGNR students, as political affiliation has been shown to shape one's attitude toward controversial topics such as undocumented migration (Pew Research Center, 2019).

The multiple regression analysis delved into the influence of students' political inclination and their relationship with attitudes towards undocumented migration. In this study, AGNR students with moderate and liberal political inclinations showed a significantly more favorable attitude toward free flow than students with other political beliefs. In contrast, non-AGNR students with a conservative political inclination have a significantly lower attitude toward undocumented migration. An additional reason for these differences could be students' migration familiarity since it was found as a significant predictor of free flow for AGNR students. This could be due to their understanding of the Texas agricultural sector's reliance on an undocumented workforce, and a free-flow migration program could facilitate their agricultural jobs (AIC, 2020). However, AGNR border state students have a lower attitude toward undocumented migration cost-benefit, indicating that despite their recognition of the positive impact free-flow programs could have in improving agriculture, they might still view undocumented status as a drawback.

To ensure that agricultural science programs effectively address student attitudes towards migration, it is crucial to consider external factors such as political inclination and promote real-life experiences for students to interact with migrant workers. This is particularly important given that future jobs in the field often involve working with migrants (Bureau of Labor Statistics, 2015).

For this research, students' low migration familiarity was shown to be a predictor of a positive attitude towards free flow in the AGNR model and a positive attitude towards cost-benefit in the non-AGNR model. This finding contrasts with Dražanová (2022), who reported that a higher level of

Table 6

Multiple Regression Predicting the Attitude towards Undocumented Migration (N = 452).

	AGNR (n = 292)			Non-AGNR (n = 160)		
Predictors	***B***	**SE**	**β**	***B***	**SE**	**B**
Constant	2.59**	.20		2.82**	.25	
Gender	.22	.09	.13*	.36	.12	.21*
Ethnicity	.46	.11	.21**	.38	.14	.20*
Conservative	-.52	.18	-.32**	-.58	.19	-.34*
Liberals	.96	.23	.29**	.49	.23	.22*
		R^2 = .43	.		R^2 = .43	
		R^2adj = .41			R^2adj = .38	

*Note. **p <.001; *p <.05*

migration familiarity led to a more positive attitude toward 'undocumented migrants' free flow and cost-benefit.

This limited migration familiarity could be perceived as unknowingness about the complexities of immigrants' experiences, situations, and issues. Therefore, future research should assess students' actual knowledge about undocumented migration and compare it to their perceptions. Understanding students' migration knowledge gaps will provide valuable information for the development of educational programs and migration policies that aim to fill these gaps and improve students' understanding of the topic (Massey, 2020).

The results showed that students' year of school was not a significant predictor in both AGNR and non-AGNR models (cost-benefit, free flow, human rights, and undocumented migration). Future studies should focus on understanding why there is no difference between first-year and senior students' attitudes toward undocumented migration. This is crucial since young people, including college students, will play a key role in shaping future immigration policies (Hooghe, 2004). Hence, instructors must invest in education programs that emphasize experiential learning and help students gain a deeper understanding of immigrant communities and their contexts. Such education could also broaden students' perspectives on migration and lead to more informed decision-making (Borgonovi & Pokropek, 2019).

Descriptive statistics results showed a higher female participation compared to males, which aligns with previous research (Qu et al., 2018; Lamiño Jaramillo et al., 2022). The undocumented migration model showed that AGNR and non-AGNR female students had a more favorable attitude toward undocumented migration compared to males. These results converse with those from the European University Institute et al. (2021), which reported that gender does not explain much of the variation in attitude toward immigration. However, it is supported by previous investigations that women in the United States are slightly opposed to any attitude that could affect undocumented migrants (Amuedo-Dorantes & Puttitanun, 2011). Future studies should investigate the reasons behind these gender differences, especially why gender could be a significant predictor of undocumented migration free flow for AGNR students and not for non-AGNR students; and vice versa for undocumented migration cost-benefit.

Additionally, instructors can leverage the study's findings to foster a learning environment that promotes critical thinking and informed decision-making. By incorporating discussions on undocumented migration into their courses, instructors create opportunities for students to engage with real-world issues, encouraging them to develop analytical skills and a deeper understanding of societal complexities. Instructors can encourage students to explore migration policies and consider the impact of these policies on individuals and communities. Such discussions not only enrich the academic experience but also empower students to navigate the complexities of the contemporary world. Ultimately, instructors play a pivotal role in shaping students' perspectives and attitudes, influencing their academic, personal, and career outcomes through thoughtful integration of topical issues like undocumented migration into the educational landscape (Lamiño Jaramillo et al., 2021).

This study was conducted at a southwestern university in the US. Therefore, its results may not be generalizable to undergraduate students in other areas or regions. Further research should replicate this study in different locations to provide a better understanding of undergraduate students' attitudes toward undocumented immigration. Such research would also enable meaningful comparisons with the results of this study and facilitate the development of relevant educational programs and content for agricultural education in the US. Finally, exploring the factors that influence students' attitudes through qualitative studies could provide valuable insights into the development of effective educational strategies and programs in agriculture.

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