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Abstract

The present study investigated suicidality (suicidal ideation and behaviour) among immigrants and native Dutch adolescents and whether religiosity can explain the difference. For this study, 4183 Dutch natives and 819 immigrants were recruited ranging in age of 14 to 18. A questionnaire with a focus on protective and risk factors for substance use, mental health outcomes incorporated in the survey was used. This also includes self-harm and suicidal behaviours and stress, and other mental health indicators. The results showed that immigrants from other countries were more frequent in reporting suicidal thoughts compared to the Dutch natives and Muslim immigrants. Furthermore, Dutch natives were less likely to report suicidal behaviour than immigrants from other countries and Muslim immigrants. The frequency of suicidal behaviour did not differ among the two groups of immigrants.

Moreover, religiosity level was only associated with suicidal ideation and not with suicidal behaviour. Participants with suicidal thoughts were more religious compared to participants without suicidal thoughts.

Introduction

Migration

The relationship between religion and immigrant integration is a matter of debate. Over the last century, due to substantial growth in migration, Western European countries have received a large number of immigrants, the majority being displaced from countries where Islam is the predominant religion (Saltanat Liebert et al., 2020; Friberg & Sterri, 2021). A study about immigration in the United States portrays religion as a positive factor that promotes adaptation (Foner & Alba, 2008). Compared to North America, which has faced a massive influx of refugees from Muslim-majority countries in recent years (Saltanat Liebert et al., 2020), in Western-European societies Islam is perceived as a barrier to full inclusion (Foner & Alba, 2008). A few studies suggest that religions not associated with Western religions (i.e., Christianity) are obstacles to cultural adjustment (Foner and Alba 2008; Breton, 2013; Beek & Fleischmann, 2019). It is unclear how religion impedes immigrant integration into society (Kogan et al., 2020). For example, are there any aspects of integration that are more susceptible to religious influence, and is there a distinction between religions in this regard? Furthermore, since immigrant integration into society and other factors affect mental health and suicide (Alegria et al., 2017; Brennecke et al., 2020), it is essential to examine this topic.

Suicide and suicidality

Suicide is one of the significant health concerns globally, and it is the fourth leading cause of death at ages 15 to 29 (World Health Organization, 2019). Non-fatal suicide attempts and suicide ideation are two aspects of suicidal behavior (Klonsky, May, & Saffer, 2016). Mental disorders, prior suicide attempts, and substance abuse are major risk factors for suicidal behavior (Ribeiro et al., 2018; Gili et al., 2019). Overall, such a complex phenomenon as suicide is explained by the impact of various social, cultural, biological, psychological, and environmental factors. Individual factors include sex, marital status, age, ethnicity, cultural continuity, and socioeconomic status (Kolves, Milner, & Varnik, 2013; Amiri, 2020). Vulnerable groups such as migrants are at high risk for suicide (WHO, 2021), and these rates

are rising among them (Dickson et al., 2019). According to studies, there is a higher suicidality risk among young immigrant females compared to Dutch females (Burger et al., 2009; van Bergen et al., 2010). According to Van Bergen and her colleagues (2010), Turkish and South Asian-Surinamese female immigrants have higher suicide rates, followed by Dutch female and Moroccan female immigrants. Termorshuizen and his colleagues (2015), however, reported higher suicide rates in Dutch people compared to immigrants. So, the results about suicide rates in immigrants and Dutch people are inconsistent.

Second-generation immigrants, on average, integrate better into societies compared to first-generation immigrants (Beek & Fleischmann, 2020; Statistics Netherlands, 2018). However, differences in suicide rates have been identified between first and subsequent generations of immigrants (Di Thiene et al., 2015; Bauwelinck et al., 2016; Beek & Fleischmann, 2020). Not only are first-generation immigrants reported to have a lower risk of suicide than subsequent-generation immigrants, but they also are found to have better mental health outcomes compared to the native population (Bowe, 2017; Marks et al., 2014). Moreover, second-generation immigrants, are thought to be at higher risk for suicide than first-generation immigrants because of a loss of protective factors related to immigrants such as stronger family bonds, religiosity, positive ethnic group identity, and communalism (El-Sayed et al., 2011, as cited in Termorshuizen et al., 2012). These findings could also be explained by the immigration paradox (Brennecke et al., 2020). The immigration paradox is a population-level phenomenon that refers to a selection process that encourages healthier individuals to immigrate (Marks et al., 2014). Resilient individuals, for example, might be better prepared to go through the immigration process. People who suffer from chronic or severe illnesses, on the other hand, may encounter challenges during that process. This immigration paradox is thought to be more pronounced among first-generation immigrants than second and subsequent-generation immigrants (Marks et al., 2014). On the contrary, a recent meta-analysis by Amiri (2020) about suicide prevalence in the immigrant population contradicts the immigration paradox. The author reviewed fifty-one studies to investigate suicide prevalence or odds ratio, including the prevalence of suicide ideation, suicide mortality, suicide attempts, and plan of suicide. A high prevalence of suicide ideation followed by suicide attempts and planning was found in immigrants. However, the prevalence of suicide was lower in immigrants compared to the natives. This difference may be attributed to the variations in

cultural attitudes towards suicidality (Bauwelinck et al., 2016; Kakounda Muallem & Israelshvilli, 2015; Barnes, 2006). For example, different cultures may vary in attitudes towards risky behaviors (Kloep et al., 2009) or may have different acceptable coping mechanisms (Israelashvili, Taubman Ben-Ari, & Hochdorf, 2011).

Suicide and religion

Suicide is rarely addressed in terms of religion. Immigrants from Muslim-majority countries, for example, may be discouraged from engaging in suicidal behavior because Islam has a strict view on it, prohibit any suicidal ideations or behavior (Bauwelinck et al., 2016, Lawrence, Oquendo, & Stanley, 2016; Kakounda Muallem & Israelshvilli, 2015). Religion is another explanatory factor that represents differences in attitude towards suicidal ideation and suicidality. (Kakounda Muallem & Israelashvilli, 2015; Saiz et al., 2021). High levels of religiosity have been historically related to decreased suicide risk (Gearing & Alonzo, 2018; Kranitz et al., 1968). Emile Durkheim (1951, as cited in Gearing & Alonzo, 2018) proposed that religious connection and commitment provide one a source of meaning and order in the world, which might buffer against stress and contribute to emotional well-being. Moreover, major religions include rituals and religious services, which may be an effective coping strategy for difficulties, including suicide (Gearing & Alonzo, 2018)

Religiosity as a protective factor also differs across genders (Kralovec et al., 2017). Males were found to experience a weaker protective effect of religiosity compared to females. Furthermore, Nkansah-Amankra (2013) has found that adolescents with higher personal importance to religion are less likely to have suicidal ideations. Kakounda Muallem and Israelshvilli (2015) compared the effects of religiosity on suicidal ideation between Christian and Muslim-Arab adolescents in Israel. The adolescents ranging in age from 15-18 with a high prevalence of suicide attempts were the focus of the study. The main finding of the study was that religiosity acts as a buffer against suicidal ideation, depending on religious affiliation. Different results were found in the relationship between religiosity and direct suicidal thoughts for Christians and Muslims. A significant negative correlation was found for Christians. For Muslims, the correlation was also negative but not significant. Moreover, Christians indicated a greater desire to live compared to Muslims. Arab girls (both Christian and Muslim) scored higher on suicide ideation than Arab boys.

Another more recent study by Saiz and his colleagues (2021) investigated the relationship between religiosity and suicide in participants from 60 countries. In this study, the relationship was examined among five religions: Buddhism, Christianity, Hinduism, Islam, and other non-specific religions, taking subjective religiosity and religious practices into consideration as two aspects of religion. The results showed that both subjective religiosity and religious practices correlated with suicide significantly negatively. The effect of subjective religiosity on suicide, however, was more relevant than the behavioral indicators. Moreover, Muslim participants showed the lowest attitudes towards suicide compared to other religions. Muslims with different frequencies of religious practices were found to have an equally negative attitude towards suicide.

So, as one can notice, the empirical evidence on the relationship between religion and suicidality is inconsistent. In the study by Nkansah-Amankra (2013), the negative correlation between religiosity and suicidality in Muslims was significant. Other studies have found that Muslim participants had the most negative attitudes towards suicide (Saiz et al., 2021) and lower rates of suicide compared to other religions (Abdel-Khalek, 2004; Cooper-Kazaz, 2013). Some other studies report religion as a risk factor for suicide (e.g., Zhao et al., 2012). This inconsistency might be due to the difference in the research approaches of the studies.

Other factors affecting suicide

As briefly mentioned above, adolescent girls are more likely to have suicidal thoughts than adolescent boys (Muallem & Israelshvilli, 2015; Kim et al., 2014). Globally, males are twice more likely to commit suicide than females (Wasserman et al., 2021). This trend might be attributed to differences in methods chosen for suicide. Compared to females, lethal methods are often used by males (Varnik et al., 2008). Therefore, men are more likely to have fatal outcomes as a result of suicide. On the other hand, females are more likely to engage in non-fatal suicidal behavior (i.e., attempts and ideation) (Bauwelinck et al., 2016; Kokkevi et al., 2012; Varnik et al., 2008).

Suicide ideation and attempts are more common in youth, but this prevalence diminishes with time. Fatal suicidal behavior, however, increases with age (Bauwelinck et al., 2016). According to WHO (2015), people aged 70 years or older are at the highest risk for suicide. The lowest rates for suicide are for adolescents aging 15 years or younger. Glenn and her colleagues (2020) found that adolescent boys ranging in age from 15-19 are two times more

likely to commit suicide than adolescent girls of the same age. Moreover, the gender difference is more prominent in late adolescence.

Interpersonal relationships and social support play a critical role in adolescents' lives and help them cope with stress. (Kiuru et al., 2020; Kenny et al., 2013). Some studies report that social support is a protective factor against suicide attempts (Donath et al., 2014; Nock et al., 2013). However, the effects of social support differ based on the context (Nurullah, 2012). Perceived parental or peer support affects adolescents and children differently (Arenson et al., 2021; Nurullah, 2012). According to Mackin and his colleagues (2017), for adolescents, support from parents have a more significant protective factor for the relationship between stressful life events and suicidality (suicide thoughts or attempts) than support from peers

The low socioeconomic background is another factor that increases the risk of suicidal behavior (Spears et al., 2014; Kokkevi et al., 2012). Risk behaviors, family background, stressful life events, personality, psychopathology, and genetics can precipitate suicidality factors (Wasserman et al., 2021). Turecki (2005), for example, has found that impulsivity and aggression, especially in young people, are associated with a higher risk for suicide.

Adolescent immigrants from Muslim-majority countries are not homogenous in their religion in the Netherlands. Moreover, they are highly exposed to the processes of modernization. Modernization theory explains the transition from 'traditional' to 'modern' society (Marsh, 2014). Within the society, immigrants from Muslim-majority countries are faced with values that are different from theirs. This might create a challenging environment for this group.

Research question and hypotheses

So, the focus of this study is immigrants from Muslim majority countries in the Netherlands. This study will be comparing Muslim immigrants to Dutch natives and immigrants from other countries to investigate the possible effect of being an immigrant from a Muslim majority country and suicidal ideation and behavior. The research question of this study is 'are there any differences in suicidality between the Muslim immigrant adolescent group, other immigrant group and natives?'. The following hypotheses will be tested:

I predict immigrants from other countries to score higher on suicidality (thoughts and behavior) and Dutch adolescents to have fewer suicidal thoughts:

Hypothesis A1

H1: Immigrant adolescents from other countries will report more suicidal thoughts and behaviours than Dutch adolescents.

H0 There are no difference in this regard between these groups

Hypothesis A2

H1: Immigrant adolescents from other countries will report more suicidal thoughts and behaviours than immigrant adolescents with Muslim background.

H0 There are no difference in this regard between these groups

The effect of religiosity on suicidal thoughts and behavior will also be explored in this study.

Hypothesis B

H1: religiosity is negatively associated with suicidality in Dutch adolescents.

H0: there is no association between religiosity and suicidality

Methods

Participants

This study is a sub-project of a larger cross-sectional survey study that was performed as part of the implementation of the Icelandic Prevention Model in six municipalities or regions (Amersfoort, Sudwest-Fryslan, Texel, Urk, Hardenberg and the region of Kempen) in the Netherlands in the autumn of 2018. Parents received an information letter and were given an opt-out option. To be included in the program, school response rate had to be higher than 80%. The participants range in age from 14 to 18 (M = 15.2; SD = .755), including 2375 males and 2558 females; 16% of the sample had a migration background.

Procedure and measures

Questionnaires were administered electronically in classroom settings. The focus in the questionnaires is on protective and risk factors for substance use, additionally, mental health outcomes are incorporated in the survey. This also includes self-harm and suicidal behaviours and stress and other indicators of mental health.

Each variable will be measured using the survey:

- Suicidal behavior is assessed by specific questions from the SCL-90 (Derogaitis et al., 1973)
- Religious denomination and strength are measured by single questions and the Religious Gravity Scale (12 items, Bjarnason et al., 2005)
- Socioeconomic background will be assessed by the questions about educational level of father and mother, employment, and financial status.
- Parental and peer support will be measured using the Parental Support Scale (5 items) and the Peer Support Scale (5 items), both developed by the Icelandic Centre for Social Research and Analysis (ICRSA)

Additionally, we will look at the hypotheses while correcting for a few possible confounders and influential variables.

Statistical Analysis

A one-way analysis of variance (ANOVA) with Tukey's post hoc comparisons was conducted to compare the difference between the three groups on suicidal ideation and behavior. A simple logistic regression analysis was performed to analyze the relationship between the religiosity level and suicidality. Further, an independent two sample t-test was conducted to compare the religiosity level of those who reported suicidal thoughts and those who did not. Another independent two sample t-test was conducted to compare the religiosity level of those who reported suicidal behavior and those who did not. All the assumptions for the one-way analysis of variance (ANOVA) were tested and no violations were found. Effect-sizes will be described to further gain insight into the meaningfulness of any statistically significant findings in or between the large samples. Due to unequal group sizes,

Exploratory analysis was done to investigate the gender effect on suicidal ideation and behavior using crosstabulation. Moreover, to detect the relationship between religiosity level and place of origin a one-way ANOVA was conducted. A binary logistic regression analysis was performed to detect the effect of several confounders on suicidal ideation and suicidal behavior. The analysis included six independent variable such as, place of origin, religiosity level, parental support, parental availability, perceived wealth, and peer support.

Results

Hypotheses A1 and A2

To detect the differences in suicidal thoughts and behavior among three groups a one-way analysis of variance (ANOVA) with a Tukey's post-hoc comparison was performed. The ANOVA results indicated that there was a significant difference between three groups (Muslim-immigrants, immigrants, and natives) on suicidal thoughts (F (2, 5002) = 4.57, $p <$ 0.05, $\eta^2 = .002$) and suicidal behavior (F (2, 5002) = 9.9, $p < 0.01$, $\eta^2 = .004$). According to Tukey's test for multiple comparisons immigrants from other countries were more frequent to report having suicidal thoughts compared to Dutch natives ($p < 0.05$), but there was no difference compared to Muslim-immigrant ($p > 0.05$) (Table 1). Muslim-immigrants and Dutch natives were also equally frequent on having suicidal thoughts ($p > 0.05$). Moreover, Muslim-immigrant and immigrant group were equally more frequent to report having suicidal behavior than Dutch natives ($p > 0.05$). However, there was no significant difference in frequency reporting having suicidal behavior between Muslim-immigrant and immigrant group ($p > 0.05$).

Table 1. Posthoc comparisons using Tukey's in immigrants, Muslim-immigrants, and Dutch natives. Mean differences shown.

	Immigrants (n = 583)		Muslim-immigrants (n = 236)		Dutch natives (n = 4183)		F	Sign. differences between groups (Tukey;s p< .05)
	Mean	Sd	Mean	Sd	Mean	Sd		
Suicidal ideation	.27	.44	.20	.40	.22	.41	4.57*	Immigrants vs natives
Suicidal behaviour	.07	.25	.10	.30	.04	.20	9.90**	Immigrant vs natives Muslim-immigrants vs natives

Note. *: p < .05; **: p < .01

Hypothesis B

Two t-test analysis was conducted to compare suicidality on religiosity level. Participants with suicidal thoughts (*M* = 26.58, *SD* = 7.43) compared to participants without suicidal thoughts (*M* = 25.77, *SD* = 8.04) significantly differed on religiosity level, *t* (1913) = -3.08, *p* < .01 (Table 2). This implied that adolescents with suicidal thoughts had a higher religiosity level than adolescents without suicidal thoughts. Cohen's effect size value (d = .10) suggested low practical significance. However, participants with (*M* = 25.07. *SD* = 8.58) and without suicidal behavior (*M* = 26.01, *SD* = 7.87) did not demonstrate significant difference on religiosity level, *t* (251) = 1.61, *p* > .05 (Table 3). Moreover, Cohen's effect size value (d = .12) suggested low practical significance.

Table 2. T-test results comparing participants with and without suicidal thoughts on religiosity level.

	Suicidal thoughts (n=1079)		No suicidal thoughts (n=3525)		T
	Mean	Sd	Mean	Sd	
Religiosity scale	26.58	7.43	25.77	8.04	-3.08**

Note. *: p < .05; **: p < .01

Table 3. T-test results comparing participants with and without behavior on religiosity level.

	Suicidal behavior (n=231)		No suicidal behavior (n=4373)		T
	Mean	Sd	Mean	Sd	
Religiosity scale	25.07	8.58	26.01	7.87	1.61

Note. *: p < .05; **: p < .01

Exploratory analyses

Gender effect

The percentage of suicidal ideation significantly differed by gender among Dutch natives, χ^2 (1, N = 4155) = 31.81, p < .05, and other immigrants, χ^2 (1, N = 460) = 4.43, p < .05 (Table 4). However, among Muslim immigrants, the percentage of suicidal ideation did not significantly differ by gender, χ^2 (1, N = 228) = .33, p > .05

Table 4. Crosstabulation results examining the relationship between gender and suicidal ideation based on three groups (immigrants, Muslim-immigrants, and natives.

			Boy		Girl		Total	
place_of_origin			N	Percent	N	Percent	N	Percent
immigrant	Suicidal ideation	no	205	37.5%	185	33.8%	390	71.3%
		yes	62	11.3%	95	17.4%	157	28.7%
	Total		267	48.8%	280	51.2%	547	100.0%
Muslim-immigrant	Suicidal ideation	no	96	41.6%	90	39.0%	186	80.5%
		yes	21	9.1%	24	10.4%	45	19.5%
	Total		117	50.6%	114	49.4%	231	100.0%
native	Suicidal ideation	no	1635	39.4%	1621	39.0%	3256	78.4%
		yes	356	8.6%	543	13.1%	899	21.6%
	Total		1991	47.9%	2164	52.1%	4155	100.0%
Total	Suicidal ideation	no	1936	39.2%	1896	38.4%	3832	77.7%
		yes	439	8.9%	662	13.4%	1101	22.3%
	Total		2375	48.1%	2558	51.9%	4933	100.0%

As can be seen by the frequencies cross tabulated below, the percentage of suicidal behavior did not significantly differ by gender among Dutch natives, χ^2 (1, N = 4155) = 3.56, p > .05, Muslim immigrants, χ^2 (1, N = 228) = .8, p > .05, and other immigrants, χ^2 (1, N = 460) = 1.22, p > .05 (Table 5).

Table 5. Crosstabulation results examining the relationship between gender and suicidal behaviour based on three groups (immigrants, Muslim-immigrants, and natives.

			Boy		Girl		Total	
place_of_origin			N	Percent	N	Percent	N	Percent
immigrant	Suicidal behavior	no	252	46.1%	255	46.6%	507	92.7%
		yes	15	2.7%	25	4.6%	40	7.3%
	Total		267	48.8%	280	51.2%	547	100.0%
Muslim-immigrant	Suicidal behavior	no	104	45.0%	105	45.5%	209	90.5%
		yes	13	5.6%	9	3.9%	22	9.5%
	Total		117	50.6%	114	49.4%	231	100.0%
native	Suicidal behavior	no	1918	46.2%	2059	49.6%	3977	95.7%
		yes	73	1.8%	105	2.5%	178	4.3%
	Total		1991	47.9%	2164	52.1%	4155	100.0%
Total	Suicidal behavior	no	2274	46.1%	2419	49.0%	4693	95.1%
		yes	101	2.0%	139	2.8%	240	4.9%
	Total		2375	48.1%	2558	51.9%	4933	100.0%

Religiosity level and place of origin

A one-way analysis of variance (ANOVA) with Tukey's post-hoc comparison was conducted to detect a difference in religiosity level between immigrants from Muslim-majority countries, immigrants from other countries and Dutch natives. A significant difference between three groups were found (F (2, 4604) = 142.08, $p < .001$). According to Tukey's post-hoc comparison (Table 6), other immigrants and Dutch natives scored significantly higher on religiosity than Muslim-immigrants ($p < .001$). No significant difference in religiosity level was found between other immigrants and natives ($p > .05$).

Table 6. Posthoc comparisons using Tukey's of religiosity level in immigrants, Muslim-immigrants, and Dutch natives. Mean differences shown.

	Immigrants (n = 470)		Muslim-immigrants (n = 196)		Dutch natives (n = 3938)		F	
	Mean	Sd	Mean	Sd	Mean	Sd		Sign. differences between groups (Tukey;s p< .05)
Religiosity level	26.46	7.34	16.92	7.85	26.35	7.70	142.08***	Immigrants vs. Muslim immigrants Muslim immigrants vs. natives

Note. *: p < .05; **: p < .01; ***: p < .001

Additional confounders

To detect the effect of several factors (religiosity being one of them) on suicidal ideation and suicidal behavior a binary logistic regression analysis was performed (Table 7). The full model obtaining all predictors where suicidal ideation was a dependent variable was statistically significant, $\chi 2$ (7, N = 4487) = 297.88, $p < .001$, indicating that the model was able to distinguish between respondents who reported and did not report having suicidal thoughts. The full model explained between 6% (Cox and Snell R square) and 10% (Nagelkerke R square) of the variance in suicidal ideation, and correctly classified 77.3% of

cases. All independent variables except being a Muslim-immigrant were found to be statistically significant. The strongest predictor was being a Dutch native with an odds ratio of .664. This indicated that the natives are .664 times at lower risk for having suicidal ideation than immigrants from other countries and Muslim-immigrants.

The full model with suicidal behavior as a dependent variable was also statistically significant $\chi 2$ (7, N = 4487) = 215, p < .001, which indicates that the model was able to differentiate between respondents who reported and did not report on suicidal behavior. The full model explained between 5% (Cox and Snell R square) and 14% (Nagelkerke R square) of the variance in suicidal ideation, and correctly classified 95% of cases. All independent variables except religiosity level and being an immigrant from Muslim majority countries were found to be statistically significant. The strongest predictor was being a Dutch native with an odds ratio of .657. This indicated that the natives are .657 times at lower risk for engaging in suicidal behavior than immigrants from other countries and Muslim-immigrants.

Table 7. Binary logistic regression analysis for suicidal ideation and behavior

	Suicidal ideation	Suicidal behavior
	Odds-Ratio	
Immigrant status: muslim-immigrants	.724	1.577
Immigrant status: natives	.664***	.657*
Religiosity level	1.014**	.992
Perceived parental support	.840***	.766***
Parental availability	.897***	.892**
Perceived financial status	1.061***	1.115***
Perceived peer support	.932***	.924**

Note. *: p < .05; **: p <. 01; ***: p < .001

Discussion

The study was conducted to investigate the frequency of reporting suicidal thoughts or behaviour among adolescent immigrants from Muslim majority countries, other countries, and the Dutch natives. The findings of this study illustrate the role of ethnicity in suicidality in adolescents. This study found that immigrants from other countries were significantly more likely to report suicidal thoughts than Dutch natives. Even though Muslim immigrants were the least frequent to report suicidal thoughts, no evidence was obtained indicating that Muslim immigrants differed from immigrants from other countries or Dutch natives on reporting suicidal thoughts. Furthermore, Dutch natives were less frequently reporting suicidal behaviour than Muslim immigrants and immigrants from other countries. The latter two groups did not significantly differ on reporting suicidal behaviour.

This finding contradicts an immigration paradox explained by Marks and his colleagues (2014), according to which immigrants are resilient individuals thus are at lower risk for suicidality than the natives. However, the effect of this process is thought to be more pronounced among first-generation immigrants compared to subsequent-generation

immigrants. Our study focuses on adolescents whose one or both parents were born outside the Netherlands; therefore, they are second-generation immigrants.

However, these results are consistent with several studies that found that native people are at lower risk for suicidality than immigrants (Donath et al., 2019; Plener et al., 2015). Donath and her colleagues (2019) study found that adolescents with a migration background are 1.5. times more likely to have suicide attempts than German natives. Suicidal ideation was also more prevalent in adolescents with a migration background than those without one.

The effects of religiosity on suicidality were inconsistent. Participants with suicidal ideation scored significantly higher on religiosity level compared to participants without suicidal ideation. Participants without suicidal behaviour had higher religiosity levels than participants with suicidal behaviour, but the difference was insignificant. The effect size of the two t-test analyses was small. This finding highlights the fact that religiosity level may be influenced by factors other than suicidality, which indicates the complexity of religiosity as a construct.

Interestingly, religiosity was found to be positively related to having suicidal thoughts but did not predict suicidal behaviour. This finding contradicts previous literature that found religiosity as a buffer against suicidality (Kakounda Muallem & Israelashvilli, 2015; Gearing & Alonzo, 2018). However, the impact of religiosity level differs across various cultures and religions (Kakounda Muallem & Israelashvilli, 2015). Kim and her colleagues (2021) found that religiosity was positively related to the incomprehensibility of suicidal ideation or plans in Korean adolescents. Another study by Neeleman (1998) examined the relationship between religiosity and suicide rates in the 11 provinces in the Netherlands. He found Orthodox beliefs and religious affiliation to be negatively associated with suicide acceptance and predicted lower suicide rates in more religious provinces.

Furthermore, when looking at the group difference on religiosity, Dutch people and immigrants from other countries were equally highly religious. However, natives reported significantly less frequent having suicidal thoughts and behaviour, while immigrants from other countries scored significantly more frequent on both these variables. Immigrants from Muslim majority countries scored significantly lower on religiosity level than two other groups. The ambiguity of these findings may be explained by the skewed distribution of

religiosity levels in the sample (see Appendix B). Therefore, further investigation with normally distributed scores is needed.

The gender effect was seen in suicidal ideation but not in suicidal behaviour. Moreover, this effect was seen only among Dutch natives and immigrants from other countries. The study results revealed that boys have a higher prevalence of suicide ideation than girls. This result contradicts several studies (Donath et al., 2019; Zhang et al., 2019; Kakounda Muallem & Israelashvilli, 2015). Donath and colleagues (2019) found that adolescent girls reported a higher risk for suicidality (suicidal ideation, suicidal behaviour, and direct self-injurious behaviour) than boys.

When taking the place of origin and religiosity level into account, perceived parental support, parental availability, perceived financial status, and perceived peer support had a significant relationship with suicidal ideation and behaviour. These results are consistent with the previous literature indicating that parental support and availability (Taliaferro & Muehlenkamp, 2014; Logan, Crosby, & Hamburger, 2011) and peer support (Taliaferro & Muehlenkamp, 2014; Bearman & Moody, 2004) are the factors that protect against suicidality (i.e. suicidal ideation and behaviour).

A study by Magnusson and Makinen (2010) that investigated a relationship between income and suicide in Sweden found that poorer municipalities have higher suicide rates compared to the richer ones. Therefore, confirming the negative relationship between income and suicide. Moreover, perceived financial difficulties were found to be associated with depression, low self-esteem, and low life satisfaction (Bannink, Pearce, & Hope, 2016; Hamilton, Noh, & Adlaf, 2009; Fröjd et al., 2006). These factors are known to be one of the most significant risks for suicidality (Picazo-Zappino, 2014; Kokkevi et al., 2012; Schapir et al., 2016). The present study, however, contradicts those findings since it has shown that perceived financial status is positively related to both suicidal ideation and behaviour. Further investigation is needed since the sample consists of financially advantaged adolescents (Appendix B).

Limitations

Results from the present study should be interpreted within the context of methodological limitations. This sample includes adolescents recruited from some highly religious regions of the Netherlands (Appendix B). Therefore, the results should be considered context-dependent and not generalizable. Another limitation concerning the generalizability is the age group of the sample. The study focuses only on adolescents predominantly aged 15 and 16, so the effect of age cannot be investigated.

Even though the question about religiosity levels makes it possible to measure how the person perceives themselves to be religious, it does not measure a complex construct of religiosity level, which may include religious affiliation, frequency of religious service attendance, frequency of prayer, the importance of religiosity, and belief in God. Including these aspects of religiosity would benefit from seeing a more detailed picture of the effect of religiosity on suicidality.

Conclusion

The current study investigated the difference in suicidality in second-generation immigrants and natives and the role of religiosity in this relationship. The study indicated that immigrants are at higher risk for suicidality than Dutch natives. Religion, however, was only mildly associated with suicidal ideation and not at all with suicidal behaviour. Results suggest the importance of investigating the specific risk factors of migrant populations for suicidality. Many studies have done so; however, more studies are needed to clarify these risks since the results are inconsistent. For example, culturally specific risk factors for suicidality in immigrants should be explored. Further research is required to explore risk prevention strategies for each ethnic group so that long-term negative consequences on their well-being are prevented.

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Appendix A

Correlations and descriptive statistics of all the variables used in the study.

		1	2	3	4	5	6	7	8	*Mean*	*Std. Deviation*
1.	Suicidal behavior	1								.05	.22
2.	Suicidal intent	.393**	1							.22	.42
3.	Religiosity level	-.026	.043**	1						25.96	7.91
4.	Perceived financial status	.139**	.109**	-.031*	1					5.26	2.88
5.	Place of origin	.065**	.035*	-.166**	.081**	1				.33	.84
6.	Parental availability	-.127**	-.151**	-.004	-.090**	-.042**	1			7.06	1.91
7.	Parental support	-.178**	-.202**	-.027	-.116**	-.039**	.345**	1		9.54	1.88
8.	Peer support	-.119**	-.138**	.000	-.095**	-.045**	.119**	.353**	1	15.75	2.79

Note. *: $p < .05$; **: $p <. 01$.

Appendix B

Frequencies tables of 'perceived wealth' and 'religiosity level'.