

Nonsuicidal self-injury across cultures and ethnic and racial minorities: A review

Abstract

The field of nonsuicidal self-injury (NSSI) is dominated by research conducted with Caucasian-majority samples in Western countries such as United States, Canada, Australia and European countries. This article critically reviewed the empirical research on NSSI in non-Western countries and among ethnic/racial minority individuals who live in the West to give voice to and understand the patterns of NSSI among individuals who do not fall within the dominant Caucasian majority. The study found both similarities and differences between Western and non-Western data in terms of characteristics and functions of NSSI. Differences in gender patterns in regards to prevalence of NSSI and methods used as well as presence of a more relational functionality of NSSI rather than emotion regulation functionality were two points of divergence in the findings of these studies. In addition, the findings seem to indicate that the role of ethnicity/race is mediated by important factors such as socioeconomic status (SES) and gender. Existing gaps in the literature and suggestions for further research are discussed.

Nonsuicidal self-injury (NSSI) refers to deliberate self-inflicted destruction of one's own body tissue leading to immediate damage such as bleeding or bruising, without conscious suicidal intent and for reasons not socially sanctioned. Methods of NSSI include but are not limited to cutting, scratching, burning, head banging and self-hitting (Nock, 2010). NSSI is clearly described in section III of the DSM-5 and is a condition that needs further research (American Psychiatric Association, 2013), in part because there is a strong and complex relationship between NSSI and suicidal behaviours

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(Whitlock et al., 2013). However, the differences between the two are substantial enough to consider NSSI a separate construct (Butler & Malone, 2013). As a result, there has been a burgeoning literature on NSSI, particularly since 2000.

Suicide and self-harming behaviours have been observed and described in almost all cultures (Williams & Williams, 2001). Various aspects of suicidal behaviours, including suicide rates, gender differences, choice of methods and the meaning of suicide, are highly influenced by cultural contexts across all nations (Colucci, 2006; Colucci, Lester, Hjelmeland, & Park, 2013). These differences are not limited to cultural differences across nations; in addition, within any country there are bound to be intercultural variations among all groups that make up that collective (Brown, Donato, Laske, & Duncan, 2012). Considering the close relationship between culture and self-harming behaviours (Colucci, 2006; Colucci et al., 2013), culture itself may have a much greater impact on NSSI than was previously assumed. Indeed, according to the most recent edition of the DSM, culture is seen as an important parameter of both the definition and meaning of NSSI (American Psychiatric Association, 2013).

Despite the link between culture and self-harming behaviours, the research literature on NSSI has been monopolized by publications from Western countries, such as the United States, Canada, Europe and Australia, that studied mostly Caucasian samples (Chesin, Moster, & Jeglic, 2013; Gratz et al., 2012). Clearly, there is an underrepresentation of non-Western cultures and ethnic/racial minority groups in the NSSI literature. The unintended effect of this trend is the suggestion that NSSI shows itself in identical ways across countries, ethnicities and cultures. Thus, before we accept the conclusion that these findings represent universal realities, it is important to examine

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our possible Western, ethnocentric biases and/or assumptions (Gone & Kirmayer, 2010; Kirmayer, 2005). In this way, we can begin to include the role of culture and related concepts of ethnicity and race in our understanding of nonsuicidal self-injury.

Thus, the purpose of this research was to review studies of NSSI that were conducted in non-Western countries. We also reviewed articles that have studied ethnic/racial minority groups living in Western countries. These two broad categories have been underrepresented in the NSSI research literature and therefore form the basis of our review. It should be noted that we recognize that there are a variety of subcultures within Western and non-Western cultures, and we acknowledge that these categories are quite broad. We also acknowledge that race and ethnicity are separate constructs (see Betancourt & Lopez, 1993); however, we chose to cluster the studies that focus on ethnic or racial minorities into one category. This was done because this type of NSSI research was found to be very limited; and in addition, there was no clear-cut distinction between race and ethnicity in the studies that were reviewed. It is important to clarify that our operational definition of ethnic/racial minorities included individuals who were considered minorities in terms of either visible characteristics such as skin color and facial features and/or those who identified with a “common nationality, language or culture” other than mainstream European-descent cultures (Betancourt & Lopez, 1993, p. 631).

REVIEW

The method used in this review was a qualitative systematic review because of the diversity in the included studies. Databases accessed were ERIC, PsycINFO and Google

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Scholar. Search terms consisted of a self-injury term combined with a search term to tap cross-cultural/racial minority/ethnic minority. Specifically, the following self-injury search terms were used: “nonsuicidal self-injury,” or “self-harm,” or “self-injury,” or “deliberate self-harm,” or “DSH,” or “NSSI”; in conjunction with either “non-Western countries,” or “developing countries,” or “cross-cultural,” or “ethnic minorities,” or “racial minorities.” Subsequently, the reference lists of all relevant articles were searched to ensure the comprehensiveness of the search. All online search procedures were conducted between June and September 2014.

Only studies published in English in indexed journals and conducted since 2000 were considered, as this was the approximate time period when an NSSI definition consistent with this article first became a focus of study (Nock, 2010). Furthermore, we refined our search by including only participants in these studies that came from the community, that is, studies of incarcerated participants with an intellectual disability and/or studies conducted in clinical settings were excluded. Moreover, studies limited to participants under the age of 11 were excluded. Finally, to focus our review narrowly on NSSI as defined in the research literature (see Nock, 2010), studies that did not distinguish between NSSI and suicide attempt or included methods not resulting in direct body tissue damage (such as self-poisoning) were not considered (see Figure 1). We start with an overview of the results from Western research so that the reader may have a basis for comparing the two broad categories of studies.

NSSI IN THE WESTERN WORLD

Within the context of Europe, North America and Australia, the lifetime prevalence of NSSI has fluctuated across studies and countries, ranging from 13.9 to 35.6% among adolescents, 11.67 to 17% among university students and 5.9 to 23% among adults (e.g., Andover, 2014; Heath, Toste, Nedecheva, & Charlebois, 2008; Klonsky, 2011; Ross & Heath, 2002; Whitlock, Eckenrode, & Silverman, 2006; Whitlock et al., 2011; Zetterqvist, Lundh, Dahlström, & Svedin, 2013). In the West, female adolescents have been shown to have higher prevalence rates (e.g., Brunner et al., 2013; Zetterqvist et al., 2013). Studies have also shown that female adolescents have a tendency to engage in more cutting and scratching behaviours whereas males use burning, self-hitting/punching and head-banging behaviours (e.g., Brunner et al., 2013; Sornberger, Heath, Toste, & McLouth, 2012). Although gender differences have tended to disappear somewhat in regards to prevalence among university students, gender patterns have continued to exist in preferred methods (e.g., Whitlock et al., 2006, 2011). Finally, the age of NSSI onset for the majority of individuals in Western countries has ranged between 13 and 15 years old (Muehlenkamp, Williams, Gutierrez, & Claes, 2009).

The bulk of the NSSI literature has focused on understanding the purpose of and motives for self-injury. In a Western context, a four-factor model has been used to explain the psychological function of NSSI (Bentley, Nock, & Barlow, 2014). Basically, this model posits that NSSI is used in one of four ways: (a) to regulate a negative emotional/cognitive state such as reducing sadness or a distressing thought, (b) to avoid or manage an unpleasant social/interpersonal situation, (c) to induce a positive inner state or (d) to elicit attention or support from others (Bentley et al., 2014; Nock, 2010).

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There is no clear aetiology for NSSI but it is associated with a number of risk factors such as depression (e.g., Ross & Heath, 2002), anxiety and dissociative symptoms (e.g., Gratz et al., 2002), impulsivity and borderline personality traits (e.g., Glenn & Klonsky, 2011), subjective loneliness (e.g., Glenn & Klonsky, 2013), childhood maltreatment and neglect (e.g., Gratz et al., 2002; Yates & Carlson, 2008) and high levels of perceived parental criticism (e.g., Yates, Tracy, & Luthar, 2008).

PREVALENCE AND CHARACTERISTICS OF NSSI IN NON-WESTERN COUNTRIES

Because research has revealed differing NSSI characteristics and prevalence rates across the lifespan, studies of adolescents, university students and adults will be reviewed separately. Table 1 summarizes the findings of those studies using non-Western samples.

Adolescents

Twelve studies on the prevalence and characteristics of NSSI among adolescents in non-Western countries were found that met this article's inclusion criteria. College students were also included in two of the studies.

As shown in Table 1, NSSI prevalence rates varied from a 9.3% lifetime prevalence of self-cutting in Japan (Matsumoto & Imamura, 2008) to a 32.7% twelve-month NSSI prevalence rate in Hong Kong (Shek & Yu, 2012). With regards to gender differences, findings were extremely mixed, with three studies reporting no gender differences in the prevalence rates of NSSI in China and Turkey (Liang et al., 2014; Wan, Hu, Hao, Sun, & Tao, 2011; Zoroglu et al., 2003) as well as two studies finding no consistent gender differences in the prevalence of self-cutting across school grades in Japan (Izutsu et al., 2006; Matsumoto & Imamura, 2008). However, three studies

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conducted in Hong Kong suggested that NSSI was more prevalent among females (Cheung et al., 2013; Shek & Yu, 2012; You, Leung, Fu, & Lai, 2011). Finally, Tang et al. (2011) found that male high school and college students in China were more likely to engage in both minor and moderate/severe NSSI and, similarly, male junior high school students in Japan were found to be significantly more likely to engage in self-hitting behaviours than female students (Izutsu et al., 2006).

Investigations of methods revealed that self-hitting/head banging followed by scratching and pinching, preventing wounds from healing, cutting, self-biting and burning were the most frequent methods used among adolescents in non-Western countries (Lam, Peng, Mai, & Jing, 2009; Shek & Yu, 2012; Wan et al., 2011; You et al., 2011; Zoroglu et al., 2003). Surprisingly, almost half of the studies found no gender differences in the most frequent methods used. For instance, Zoroglu et al. (2003) found that in Turkey self-hitting and head banging followed by cutting were the most frequent methods used for both males and females. Only a few studies reported significant gender differences in the most common NSSI method used (e.g., Wan et al., 2011; You et al., 2011). For example, in Hong Kong, You et al. (2011) found that cutting was the most prevalent NSSI method used by teenage girls, whereas punching and banging were the most prevalent methods among teenage boys. Consistent with Western studies, some studies showed that close to half of adolescents who self-injured used multiple methods (e.g., You et al., 2011). Concerning age of onset, high school students reported that they started self-injuring in early-middle adolescence with a decline in activity in early adulthood (e.g., Wan et al., 2011).

University students

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In the four studies of university students in India, Turkey, Indonesia and Japan, prevalence rates varied from 10 to 38% across the studies (Kharsati & Bhola, 2014; Toprak, Cetin, Guven, Can, & Demircan, 2011; Tresno, Ito, & Mearns, 2012, 2013). Three of the four studies documented that there were no gender differences in the prevalence of NSSI among college students (Kharsati & Bhola, 2014; Tresno et al., 2012, 2013). In the fourth study, Toprak et al. (2011) indicated that self-harm behaviours among Turkish students were significantly more prevalent for males. Scratching, cutting, self-hitting, self-punching and biting were reported as the most common NSSI methods used among the college students across the studies. None of the studies found any gender differences in methods used (Kharsati & Bhola, 2014; Tresno et al., 2012, 2013).

Results for age of onset ranged from 12.43 years in Japan (Tresno et al., 2013) to 15.9 years in India (Kharsati & Bhola, 2014). Consistent with Western data, half of the NSSI sample reported engaging in multiple methods of self-injury (Tresno et al., 2012, 2013). Moreover, Tresno et al. (2013) found that 70% of the participants who engaged in NSSI did so for multiple episodes.

Adults

In the single study on NSSI using a community sample of 628 women randomly selected in Turkey, the results outlined a lifetime prevalence of 2.2% with the most frequent methods being head banging and self-hitting followed by cutting (Akyuz, Sar, Kugu, & Doğan, 2005). In comparison with Western data, three general patterns were consistent between both categories, namely that prevalence rates of NSSI varied widely across studies and countries; the common age of onset ranged from 12 to 16 years old;

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and the most preferred methods were self-hitting, cutting, scratching and head banging.

However, there seemed to be one essential difference, namely there was no consistent gendered pattern of NSSI in non-Western studies.

RISK FACTORS AND FUNCTIONS OF NSSI IN NON-WESTERN COUNTRIES

Table 2 summarizes the risk factors and correlates of NSSI in non-Western studies. There was great consistency in the results, suggesting a close association between a history of childhood abuse/neglect and NSSI (Akyuz et al., 2005; Tresno et al., 2012, 2013; Tsai, Chen, Chen, Hsiao, & Chien, 2011; Zoroglu et al., 2003) as well as a strong correlation between dissociation and NSSI across studies (Akyuz et al., 2005; Sho et al., 2009; Zoroglu et al., 2003). However, studies investigating depressive symptoms as risk factors of NSSI were not as consistent. For example, Tresno et al. (2013) found that after controlling for emotion regulation expectancy and childhood abuse, depression was no longer a predictor of NSSI. Additionally, studies taking into account family SES found inconsistent results. For example, low SES was associated with NSSI in a sample of high school and college students in China (Wan et al., 2011), but in a Hong Kong study no relationship between family economic status and NSSI was found (Shek & Yu, 2012).

Furthermore, studies focusing on the relationship between NSSI and suicide attempt (SA) consistently found a strong association between the two even when variables such as demographics, depressive symptoms and suicide ideation were controlled (Cheung et al., 2013; Liang et al., 2014; Tang et al., 2011; Toprak et al., 2011; Tresno et al., 2012). Additionally, there was inconsistency in the results of the studies examining the emotion regulation function of NSSI in non-Western countries. For

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instance, a longitudinal study conducted in a large sample of adolescents in Hong Kong revealed that NSSI did not serve to regulate earlier negative emotions and did not lead to increased relational problems. Instead, NSSI served to regulate interpersonal issues and over time self-injurers experienced increased negative emotions (You, Leung, & Fu, 2012). Therefore, the role of the emotion regulation function of NSSI in non-Western studies is unclear. For example, Tresno et al. (2013) found that negative mood regulation expectancies (NMRA) moderated the relationships between childhood maltreatment and NSSI in Japan, whereas Tresno et al. (2012) did not find any significant difference in levels of NMRA between college students in Indonesia with and without a history of NSSI.

Finally, in a study that used the 4-factor functional model of NSSI, Kharsati and Bhola (2014) found that university students in India who engaged in only minor forms of NSSI were significantly more likely to use NSSI to regulate social environments through avoidance, while individuals who engaged in moderate/severe NSSI were significantly more likely to use NSSI to regulate their emotions. Results of their study suggested that severity levels of NSSI may have different functions and, therefore, may have diagnostic value.

PREVALENCE AND CHARACTERISTICS OF NSSI AMONG ETHNIC/RACIAL MINORITIES IN WESTERN COUNTRIES

Adolescents

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Results of prevalence rates among ethnic/racial minority adolescents conducted in Western countries have been inconsistent. Some studies found that NSSI was less prevalent among non-Caucasian adolescents (e.g., Lloyd-Richardson, Perrine, Dierker, & Kelley, 2007; Muehlenkamp & Gutierrez, 2007). For example, Lloyd-Richardson et al.'s (2007) study of 633 community adolescents found that African-American students were less likely to report NSSI when compared with their Caucasian counterparts whereas other studies found either no differences between the two (Guan, Fox, & Prinstein, 2012; Hankin & Abela, 2011; Hilt, Nock, Lloyd-Richardson, & Prinstein, 2008) or a prevalence for certain ethnic/racial groups over Caucasians (Gratz et al., 2012; Yates et al., 2008). For instance, Gratz et al.'s (2012) study in a relatively poor area of the southern United States suggested that rates of self-injurious thoughts and behaviours differ as a function of race, with African-American students being significantly more likely to engage in self-injury (i.e., burning and cutting) than Caucasians. More surprisingly, there was an interaction between gender and race, with African-American boys reporting higher rates of self-injury than Caucasian boys. Yates et al. (2008) conducted a study to examine NSSI among upper-middle-class youths and also found that students who identified as African-American or “other” (mostly Native American) reported higher rates of NSSI in comparison with Caucasian, Hispanic and Asian participants and participants who self-identified as “multicultural.” Therefore, these two studies suggested that prevalence of NSSI may differ as a function of race, SES and gender. In a Native American sample Cwik et al. (2011) found high rates among this distinct group with females being more likely to engage in NSSI, with cutting as a preferred method.

University students

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A considerable number of studies have found some significant differences in the prevalence rates of NSSI among university students of different ethnicities/races (Chesin et al., 2013; Gratz, 2006; Kuentzel, Arble, Boutros, Chugani, & Barnett, 2012; Whitlock et al., 2011, 2013). However, these studies showed inconsistency in terms of which ethnic/racial background was more likely to be at risk of NSSI. For instance, Chesin et al. (2013) found that, in a sample from an ethnically/racially diverse university in the United States whose students received need-based financial aid, Asian and Caucasian students reported higher rates of engaging in more than four episodes of NSSI than Hispanics and African-Americans. Somewhat similar to Chesin et al.'s (2013) results, Gratz et al. (2006) found significant differences across different ethnic/racial groups, with 50% of participants from “other” racial groups, as well as 25% of Caucasian, 12% of Asian, 9% of Hispanic and 5% of African-American students, reporting a history of frequent NSSI. Both studies suggested high to moderate rates of NSSI among Caucasian and Asian/Asian-American students. In contrast, some other studies indicated that Asian/Asian-American students were the only ethnic/racial group reporting significantly lower incidence of NSSI than Caucasian students (Whitlock, Muehlenkamp, & Eckenrode, 2008; Whitlock et al., 2006; Whitlock et al., 2011). In an ethnically/racially diverse college sample, Kuentzel et al. (2012) found a large difference in the prevalence of NSSI by ethnicity, with Native American and multicultural students having significantly higher rates of NSSI (29.2% and 20.8%, respectively), followed by Caucasians (17%) and Hispanics (17%). Therefore, the results suggested that Native American and multicultural university students might be at an increased risk of NSSI. Kuentzel et al.'s (2012) results also indicated that the lowest rates were found among

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Middle Eastern and African-American participants. Croyle (2007) also found high and statistically similar NSSI rates in Caucasian (33%) and Hispanic (27%) students.

Overall, the findings were inconsistent, with a highly variable pattern for ethnicity and racial group. In spite of these patterns, the general sense is that: (a) incidence rates of NSSI are inconsistent among Asian/Asian-American and Hispanic students, (b) NSSI rates seem to be lower among African-American university students, (c) the one study of NSSI among Middle Eastern students reported lower rates of NSSI and (d) Native Americans, multicultural participants and students who identify as being of “other” ethnic backgrounds (while clearly an understudied university group) may be at increased risk of NSSI.

Among adults

In a study of the prevalence of NSSI among adults, Klonsky (2011) found no significant difference between Caucasian and non-Caucasian participants in NSSI prevalence rate, method used and age of onset. However, the vast majority of these participants (86.1%) were Caucasian and this makes the conclusions somewhat limited. Results of a study conducted by Andover (2014) indicated that participants who reported a history of NSSI were significantly more likely to be Caucasian. However, this result was not found for participants who met the criteria for a potential NSSI disorder.

RISK FACTORS AND FUNCTIONS OF NSSI AMONG ETHNIC/RACIAL MINORITIES

Few studies have investigated risk factors and functions of NSSI or factors related to the experience of minorities among ethnically/racially diverse groups. Results from

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Chesin et al's. (2013) sample of ethnically diverse university students in the United States suggested that only anxiety and borderline personality traits significantly predicted engaging in more than four episodes of NSSI and perceived racism was not a significant factor in the analysis. In fact ethnic/racial identity might be a protective factor for some groups. For example, Croyle (2007) found that in a study of Hispanic college students, a strong Mexican ethnic identity was negatively correlated with NSSI but for men only. This suggests that gendered social roles that emphasize social responsibilities, strength and personal control may be at play here. Similarly, the role of religious affiliation in predicting NSSI revealed that atheists/agnostics/nonbelievers reported higher rates of NSSI, while Baptists and Muslims experienced the lowest rates of NSSI (Kuentzel et al., 2012). Students with very strong religious beliefs were the least likely to engage in NSSI, suggesting that religious practices such as prayer, meditation or consultation with a spiritual counsellor might have a positive impact on emotion regulation. However, even after controlling for gender, age, religious affiliation and strength, Kuetzel et al. (2012) found that ethnic status remained a significant predictor of NSSI.

Overall, based on the few reviewed studies, data on the relationship among cultural factors, minority experiences and risk and protective factors for NSSI show a very mixed picture. These data are emerging and will hopefully provide important information on factors such as perceived discrimination, immigration, acculturation stress and bicultural identity, which impact the mental health and psychological wellness of ethnic minority individuals (e.g., Brown et al., 2012). Additionally, little is known about how ethnic/racial minority individuals who engage in self-injury make sense of their

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behaviors and experiences and to what extent their ethnic minority status impacts their understanding of the behavior.

DIVERGENCE, CONVERGENCE, AND IMPLICATIONS

This study was motivated by the obvious fact that NSSI is well documented in the West, and that Caucasian individuals have been the focus of considerable study. Given that race, ethnicity, culture and other important markers of social location intersect with mental health and psychosocial functioning, understanding the patterns of NSSI among individuals from non-Western countries or those who do not fall within the dominant White majority is needed if we want to further our understanding of this important phenomenon.

Research on NSSI among non-Western countries has mainly been conducted in a few non-Western countries/regions, notably China, Japan, Hong Kong, Taiwan, Indonesia, India and Turkey. Our review found that there was a salient difference in gender patterns among individuals from these countries. For example, three Hong Kong studies found significantly higher rates of NSSI among female adolescents. One of these studies found a significant pattern of methods used for females. The fact that NSSI, notably cutting and scratching, was found to be more prevalent among females in both the West and Hong Kong might be understood by considering Hong Kong's colonial history and the longer standing practices of certain forms of individualism, modernism and consumerism in that country (see Lee, 2003). No consistent gender patterns were seen in China, Japan, India and Turkey but higher rates of NSSI were sometimes found

among male adolescents and college students. The DSM-5 proposed a female-to-male ratio of between 3:1 and 4:1 (American Psychiatric Association, 2013), however, the existing research from non-Western community samples suggests that the gender differences are much more attenuated. Finally, there seems to be an additional point of divergence in that the function of NSSI in non-Western societies does not appear to map onto those reported for Western studies (Tresno et al., 2012; You et al., 2012).

While gender emerged as an obvious difference in the results between the West and non-West, there were many areas of similarities. In general, prevalence rates of NSSI; age of onset; and a preference for self-hitting, cutting, scratching, head banging, burning and biting were comparable. The expected high correlation between NSSI and suicidal behaviours was also observed. We also saw very similar risk factors for NSSI, including childhood maltreatment, depression, alcohol abuse and substance use. However, childhood maltreatment, depression and substance use are universally associated with a wide range of psychological and health outcomes, and therefore we should not be surprised by the similarities between Western and non-Western samples. This suggests that cultural factors related to NSSI may be difficult to identify unless unique specific cultural features are studied. For example, in their study of Hong Kong adolescents, Shek and Yu (2012) argued that when the more Western values of individualism and self-determination clash with the values of a collectivistic culture such as Hong Kong, the ensuing stresses might lead young people to engage in risky behaviours including NSSI and SA.

Among ethnic/racial minorities (living in the West), educational attainment seems to be an important consideration in that NSSI was found to be more prevalent among

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African American high school students from both low and high SES families but less prevalent among university students. In fact, African-American university students consistently showed lower rates of NSSI across studies. This suggests that educational achievement (i.e., higher education) in the current world of uneven and unequal economic opportunities (Bumpers, 2008; Ryabov, 2013) represents an important social and economic advantage that may help buffer some of the inherent effects of racism.

Although the body of research focusing on ethnic/racial minorities is insufficient, there may be important interactions between ethnicity/race, gender and/or SES in predicting NSSI. For example, male African-American high school students and Asian/Asian-American university students from lower SES strata might be particularly vulnerable to NSSI (Chesin et al., 2013; Gratz et al., 2012) compared with their counterparts from other ethnic/racial backgrounds. Furthermore, the interaction of gender and ethnicity/race on patterns of NSSI has also been observed when considering the protective effects of strong ethnic identity on predicting NSSI in a university student population (Croyle, 2007).

Reviewing the NSSI research among ethnic/racial minorities also revealed how broad sociocultural factors can impact NSSI. For example, the very high prevalence of NSSI among Native Americans in both adolescents and university students might be linked to the systematic oppression, genocide, and subjugation of aboriginal people by White people and their institutions. Indeed, historical traumatic responses and unresolved grief related to a history of genocide and forced acculturation have been associated with high levels of psychic numbing, depression and suicide among aboriginal individuals (Brave Heart, 1999). High rates of NSSI among Native Americans and aboriginals may

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also be related to the historical use of culturally based self-mutilation rituals, such as during mourning or religious ceremonies (Favazza, 1996), which may make self-injury an acceptable way of dealing with distress.

GAPS AND FURTHER DIRECTIONS

NSSI among adolescents and high school students is increasingly being studied globally, notably in China, Hong Kong and Japan, and we are also starting to see some work being done with college populations in other non-Western countries. This will help us have a better understanding of how widespread NSSI actually is but more importantly of how it expresses itself within a particular culture. While we are far from a clear set of guidelines for assessment and treatment, thinking about how culture, ethnicity, race, gender and other important contextual factors impact NSSI will improve education and mental health service delivery for individuals belonging to nondominant groups.

Accepting a Western construction of NSSI means that researchers sometimes inadvertently ignore the norms and values of populations that are substantially different from the dominant Western culture. It is important to situate NSSI within the contexts of race, ethnicity and culture if we are to make better sense of what is occurring at a deeper level. For example, in speaking of NSSI in the context of Turkish society, Toprak et al. (2011) argued that self-harm is traditionally acceptable among males, particularly in low-income areas—a detail that helped these researchers explain the high rates of NSSI among the males in the study's sample. For decades, the West has provided the dominant discourse for mental health, psychology and psychiatry (Gone & Kirmayer, 2010;

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Kirmayer, 2005), and as such the Western version of NSSI will continue to be seen as the prototype unless we are better able to contextualize NSSI.

Overall, a more comprehensive knowledge of NSSI among non-Western countries and minority groups deserves a more prominent place in the research literature. Also, more research is needed to investigate the applicability of the theoretical models proposed by Western researchers to understand NSSI in non-Western cultures as it appears that in non-Western cultures NSSI may be used to regulate how the individual behaves in regard to others—a decidedly more relational view of NSSI. It follows then that research is required to investigate the culture-specific risks and protective factors of NSSI in both non-Western cultures and among ethnic/racial minorities. Finally to understand the phenomenology of NSSI regarding its cultural backgrounds, rigorous culture-sensitive qualitative studies are needed in both non-Western countries and among ethnic/racial minorities in Western countries to shed light on the influential factors and functions of NSSI in different sociocultural backgrounds; factors cannot be identified by deductive quantitative approaches.

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Tables and Figures

Figure 1. Flow chart of review methodology.

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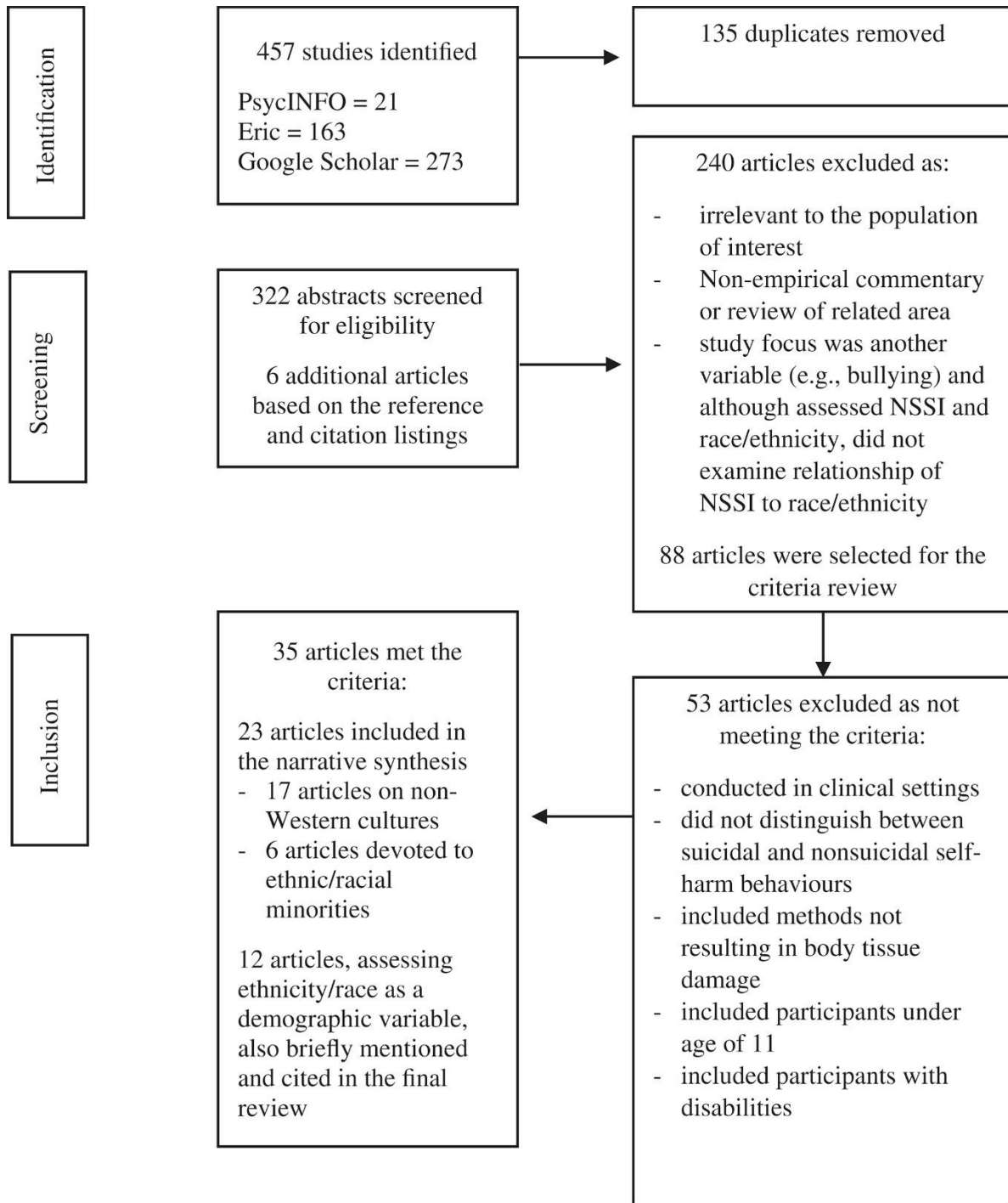


Table 1. Study characteristics and prevalence rates of NSSI in non-Western countries

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<i>Sample</i>	<i>Citation</i>	<i>Country</i>	<i>N</i>	<i>Assessment</i>	<i>Assessed suicide intent</i>	<i>Period</i>	<i>Prevalence %</i>	<i>Significant gender difference</i>
Middle/high school students	Cheung et al. (2013)	Hong Kong	2317	Yes/no + checklist	Yes	12-month	14%	Yes
	Izutsu et al. (2006)	Japan	477	Yes/no (cutting, self-hitting)	No	Lifetime	Cutting 8.5% Hitting 20%	Cutting no, Hitting yes
	Lam et al. (2009)	China	1618	Checklist	No	6-month	16%	Unknown
	Liang et al. (2014)	China	2131	Yes/no + checklist	Yes	Lifetime	23.2%	No
	Matsumoto and Imamura (2008)	Japan	1726	Yes/no (Cutting)	No	Lifetime	9.9%	Varying based on grade
	Shek and Yu (2012)	Hong Kong	3328	DSHS	Yes	12-month	32.7%	Yes
	Sho et al. (2009)	Japan	1938	Yes/no (Cutting)	No	Lifetime	Varying based on grade	Varying based on grade
	Tsai et al. (2011)	Taiwan	742	Yes/no	No	Lifetime	11.3%	Yes
	You et al. (2011)	Hong Kong	6374	Checklist	No	2-year	15%	Yes
Zoroglu et al. (2003)	Turkey	862	Yes/no + checklist	Yes	Lifetime	21.4%	No	
High school & college students	Tang et al. (2011)	China	2013	FASM	Yes	12-month	15.5%	Yes
	Wan et al. (2011)	China	17,622	Yes/no + checklist	Yes	12-month	17%	No
University students	Kharsati and Bhola (2014)	India	470	FASM	Yes	12-month	31.2%	No
	Toprak et al. (2011)	Turkey	636	Yes/no + cutting, burning	No	Lifetime	15.4%	Yes
	Tresno et al. (2012)	Indonesia	314	DSHI	Yes	Lifetime	38%	No
	Tresno et al. (2013)	Japan	313	DSHI	Yes	Lifetime	10%	No
Adults	Akyuz et al. (2005)	Turkey	628	Yes/no + checklist	Yes	Lifetime	2.2%	N.A.

Table 2. The studied correlates and risk factors of NSSI in non-Western countries

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<i>Correlates / Risk factors</i>	<i>Number of studies</i>	<i>Findings</i>	<i>Country</i>
Abuse/neglect history	5	History of physical, emotional and/or sexual childhood abuse and neglect has been frequently identified as a risk factor	Turkey, Indonesia, Taiwan, Japan
Anxiety	1	Anxiety is closely related to NSSI	China
Depressive symptoms	5	Elevated depressive symptoms identified as a risk factor Depression was no longer a predictor of NSSI after controlling for emotion regulation expectancy	Turkey, Japan, China Japan
Dissociation	3	Strong relationship between disassociation and NSSI	Turkey, Japan
Tobacco use	3	Close correlation between tobacco use and NSSI	Japan, China
Alcohol use	5	Close correlation between alcohol use and NSSI	Japan, Turkey, China, Taiwan
Substance use	3	Substance use associated with NSSI	India, Japan, Turkey
Negative body image	1	Negative perceptions of body image associated with NSSI	China
Behavioural impulsivity	1	Association between NSSI and impulsivity and higher impulsivity distinguished the NSSI + SA group from the NSSI group	China
Cognitive/behavioural competency	1	Higher levels of cognitive and behavioural competency associated with NSSI	Hong Kong
Internet addiction	1	Internet addiction associated with NSSI	China
Overlap with suicide attempt	5	Strong correlation between NSSI and suicide attempt	China, Hong Kong, Indonesia, Turkey
Low SES	2	Results on association between NSSI and low SES are inconsistent across the studies	China, Hong Kong
Education of father	1	Education of father (senior middle school) was an important correlate of repeated NSSI	China
Remarried parents	1	Having remarried parents was associated with NSSI	Hong Kong
Only child	2	No significant relationship between “only child” and NSSI	China