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School belongingness, well-being, and mental health among adolescents: exploring the role of loneliness

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ABSTRACT

Objective: Within the school context, the need to belong is a fundamental psychological construct associated with a variety of important adolescent school-based and quality-of-life outcomes. The objective of the present study is to investigate the mediating effect of loneliness on the association between school belonging constructs (i.e., social inclusion and exclusion) and subjective well-being and mental health problems among adolescents.

Method: Participants of this study included 244 adolescents in grades 9–12 attending a high school in a city of Turkey. They were comprised of 52.5% female and 47.5% male and ranged in age between 14 and 18-years ($M = 16.27$, $SD = .1.02$).

Results: Findings of the study indicated that school-based social inclusion and exclusion significantly predicted loneliness, mental health problems, and subjective well-being. Mediation analyses showed that loneliness partially mediated the relationship of social inclusion with mental health problems and subjective well-being. Thereafter, loneliness had a full mediating effect on the association between social exclusion and subjective well-being and partially mediated the effect of social exclusion on adolescent mental health problems. Social inclusion and exclusion also indirectly predicted mental health problems through subjective well-being.

Conclusion: Findings of this study suggest that loneliness is an important mechanism that may help to explain the effect of school belongingness on adolescent well-being and mental health. The results highlight the importance of school belongingness-based preventions and interventions targeting to promote mental health and well-being in school settings.

KEY POINTS

What is already known about this topic:

- (1) Belongingness is an important psychological construct for mental health and well-being, not only at an empirical level but also at a theoretical level.
- (2) A satisfied need for belonging improves youth well-being and mental health, whereas unsatisfied or lack of this need can lead to a variety of psychosocial problems, such as loneliness.
- (3) Loneliness has adverse impacts on adolescent well-being and is a risk factor for developing emotional and behavioural problems

What this topic adds:

- (1) The present study highlights the importance of school belongingness-based preventions and interventions targeting to promote mental health and well-being in school settings.
- (2) Loneliness is an important mechanism that may help to explain the effect of school belongingness on well-being and mental health of adolescents.
- (3) The study outcomes suggest there is a need to design a more comprehensive prevention and intervention approach for improving adolescent mental health and well-being.

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Adolescence; loneliness; mental health; school belongingness; the need to belong; well-being

1. Introduction

Within the school context, the need to belong is considered a fundamental psychological construct associated with a variety of important adolescent school-based and quality-of-life outcomes (Arslan, 2018a; Arslan & Tanhan, 2019; Osterman, 2000). School belongingness refers to “the extent to which

students feel personally accepted, respected, included, and supported by others in the school social environment” (Goodenow & Grady, 1993, p. 61). It involves youths' feelings of themselves as important, valuable, and meaningful parts of their respective school (Arslan & Duru, 2017). Previous studies have indicated that school belongingness is associated with better

academic functioning and greater psychosocial and emotional well-being, as well as less mental health problems (Allen, Kern, Vella-Brodrick, & Waters, 2017; Anderman, 2003; Arslan, 2018a; Goodenow & Grady, 1993; Pittman & Richmond, 2007). Although school belongingness has critical importance in improving student academic functioning and psychosocial adjustment, few research has focused on its impacts on mental health and well-being, specifically in Turkish adolescents. Additionally, given the importance of the effective preventions and interventions in school settings, a critical step is to understand the effects of school belongingness on adolescent well-being and mental health and explore the factors that may help to explain its impacts on the outcomes.

1.1. School belongingness, mental health, and well-being

Belongingness is an important psychological construct for mental health and well-being, not only at an empirical level but also at a theoretical level (Arslan & Duru, 2017; Arslan & Tanhan, 2019; Baumeister, 2012; Hale, Hannum, & Espelage, 2005). The need-to-belong model proposes that the need for belonging is a basic motivational construct that is critically important for building and maintaining positive relations with others (Baumeister, 2012; Baumeister & Leary, 1995). Given this framework and the literature, social inclusion, and exclusion are conceptualised as two essential constructs of sense of belongingness (Arslan & Duru, 2017; Baumeister & Leary, 1995; Malone, Pillow, & Osman, 2012). Social inclusion is a feeling of being accepted, valued, encouraged, and welcomed by others in the social context (Arslan, 2018b). Previous research revealed that being included was associated with better academic functioning, lower mental health symptoms, and greater well-being (Arslan, 2018b; DeWall, Baumeister, & Vohs, 2008; King, Akiyama, & Elling, 1996; Malone et al., 2012; Shochet, Smith, Furlong, & Homel, 2011). Osterman (2000) stated that socially included students were more likely to have a variety of positive educational and developmental outcomes compared to those who were excluded. Social inclusion was found a significant predictor of subsequent depressive symptoms of elementary school adolescents (Zimmer-Gembeck, Hunter, & Pronk, 2007), even controlling for prior symptoms (Shochet et al., 2011). A prospective study by Kistner, Balthazor, Risi, and Burton (1999) showed that peer acceptance had a longitudinal predictive impact on youth self-reported depressive symptoms 7-years later, even controlling for initial of symptoms.

What is more, previous research has supported the belongingness hypothesis, indicating that social exclusion is a painful experience related to greater psychosocial problems, poor academic functioning, and lower well-being (Arslan, 2018d; Baumeister & Tice, 1990; Erdinç & Arslan, 2014; Osterman, 2000; Twenge & Campbell, 2003). For example, Arslan (2019a) indicated that social exclusion was significantly associated with youth subjective well-being, and resilience and self-esteem mediated the effects of social exclusion on subjective well-being. Social exclusion is physically and emotionally the experience of being kept apart from others (Riva & Eck, 2016). Within the school context, it is considered student experience of being ignored (i.e., emotionally) and rejected (i.e., physically) by others, especially peers and teachers (Arslan, 2018c). Socially excluded adolescents are likely at a disadvantage academically, socially, and psychologically (Arslan, 2019a; Ladd & Kochenderfer-Ladd, 2016). Socially excluded individuals reported less social, emotional and psychological well-being (Arslan, 2018d; Aydın et al., 2013; Gilman, Carter-Sowell, DeWall, Adams, & Carboni, 2013) and greater psychosocial and behavioural problems, including aggressive behaviours, social stress, depression, and victimisation (Arslan, 2018c; Buckley, Winkel, & Leary, 2004; Gilman et al., 2013; Leary, 2015).

1.2. Loneliness, mental health, and well-being

A satisfied need for belonging improves youth well-being and mental health, whereas unsatisfied or lack of this need can lead to a variety of psychosocial problems, such as loneliness. According to the need-to-belong model, a lack of belongingness is related to unpleasant outcomes and an important risk factor for feelings of loneliness (Baumeister, 2012; Baumeister & Leary, 1995). Loneliness is described as individuals' subjective experience of deficiencies in their social relations (Russell, Cutrona, Rose, & Yurko, 1984). Weiss (1973) has stated that loneliness refers to an absence of intimate and meaningful relationships with other people and reported as a significant indicator of an unsatisfied need to belong (Vanhalst et al., 2015). Although belongingness and loneliness share the subjective experience of relationships with others (Mellor, Stokes, Firth, Hayashi, & Cummins, 2008; Yildiz, 2016), little research has investigated these structures together in the context of school belonging. Given the empirical outcomes, indicating that belongingness is strongly correlated with loneliness (Arslan & Duru, 2017; Malone et al., 2012; Satıcı & Tekin, 2016; Yildiz & Duy, 2014), lonely adolescents

are likely to have lower levels of school belongingness than those who are not lonely.

Additionally, loneliness has adverse impacts on adolescent well-being and is a risk factor for developing emotional and behavioural problems (Cacioppo, Hughes, Waite, Hawkley, & Thisted, 2006). Previous research revealed that lonely individuals reported greater internalising and externalising behaviours, including depressive symptoms, substance use, and social anxiety (Cavanaugh & Buehler, 2016; Kim, Okumu, Small, Nikolova, & Mengo, 2018). Moore and Schultz (1983), for instance, reported that loneliness was significantly associated with a variety of psychosocial challenges and well-being outcomes, including depression, anxiety, happiness, and life satisfaction in adolescents. Findings of the studies also provided evidence, supporting the mediating model by which school belongingness factors have an indirect effect on mental health and well-being through loneliness in adolescents. Witvliet, Brendgen, Van Lier, Koot, and Vitaro (2010) found that feelings of loneliness mediated the relationship between clique isolation and depressive symptoms. Similarly, Hombrados-Mendieta, García-Martín, and Gómez-Jacinto (2013) indicated that loneliness had a mediating effect on the association between social support and subjective well-being. Some longitudinal studies also supported the mediating effect of loneliness on youth mental health and well-being (Jose & Lim, 2014; Qualter, Brown, Munn, & Rotenberg, 2010). Taken together, these outcomes suggest that loneliness may help to explain the association between school belongingness factors and mental health problems and subjective well-being among adolescents.

1.3. Present study

Within the context of the literature noted above, the objective of the current study was to investigate whether loneliness mediated the relationships between school belongingness constructs and mental health problems and subjective well-being in adolescents. Although general belongingness has often been examined, school belongingness has not been thoroughly investigated, especially among Turkish adolescents. There is few research testing the relationship between school belongingness and adolescent outcomes as well as the mechanisms mediating the association of belongingness with mental health and well-being outcomes among adolescents. Loneliness might be a particular factor for adolescents in explaining how school belongingness is related to better

subjective well-being and poor mental health problems. Understanding might thus provide important implications for research and practice by informing preventions and interventions to promote adolescents' mental health and well-being. Consistent with the need-to-belong model and literature, it was hypothesised that school belongingness components would have indirect associations with mental health problems and subjective well-being through loneliness in adolescents.

2. Method

2.1. Participants

Participants of this study included 244 adolescents in grades 9–12 attending a high school in an urban city of Turkey. They were comprised of 52.5% female and 47.5% male and ranged in age between 14 and 18-years ($M = 16.27$, $SD = .1.02$). All questionnaires and demographic items were combined into a paper-and-pencil survey. Before distributing the survey, all students were informed about the purpose of the study, specific measures, and that their responses would be anonymous and used purely for research purposes. This survey was administered to students who volunteered to participate in the study, taking approximately 30-min during class hours.

2.2. Measures

2.2.1. School belongingness

School Belongingness Scale (Arslan & Duru, 2017) was used to measure students' sense of belonging at school. The scale is a 10-item self-report rating scale developed to assess school belongingness of Turkish students. The scale is comprised of two sub-dimensions, each of which is measured by five items: Social Exclusion Scale (SES) and Social Inclusion Scale (SIS). All items are responded based on a four-point Likert type scale (almost *never* = 1 to *almost always* = 4). The SBS provided strong internal and latent construct reliability coefficients (Arslan & Duru, 2017). In the present study, the scales had strong internal reliability coefficients (SES $\alpha = .87$, SIS $\alpha = .85$, SBS $\alpha = .87$).

2.2.2. Mental health problems

Adolescent mental health problems were measured using Youth Internalizing and Externalizing Behavior Screeners (YIBS & YEBS; Arslan, 2018e; 2019b) that were self-report measures developed to assess the emotional and behavioural problems of children and

adolescents. The YIBS is composed of 10 items and two subscales, each of which includes five items: Depression Scale (DS; e.g., “I have difficulty in relaxing and calming down myself”) and Anxiety Scale (AS; e.g., “I feel depressed and pessimistic”). The YEBS is 12-item self-report screener and comprised of three subscales, all of which composed of three to five items, measuring Attention Problems Scale (APS; “I get distracted easily”), Conduct Problems Scale (CPS; “I damage to the property of others”), and Hyperactivity Scale (HS; “I can’t stand sitting still for a long time, I feel disturbed”). Participants are asked to score all YIBS and YEBS items using a four-point scale (1 = *almost never* to 4 = *almost always*). The scales had adequate-to-strong internal and construct reliability coefficients and concurrent validity with criterion outcomes (Arslan, 2018e; 2019b). Internal reliability estimates from this sample were adequate for both scales (YIBS $\alpha = .78$; YEBS $\alpha = .90$).

2.2.3. Loneliness

UCLA Loneliness Scale-Short Form (ULS-8) was used to measure adolescents’ subjective feelings of loneliness (Russell, 1996). It is 8-item self-report scale and all items are scored using a four-point scale (1 = *never* to 4 = *often*; e.g., “I am unhappy being so withdrawn”). Yildiz and Duy (2014) examined the validity of the short version of the ULS with Turkish adolescents and found that the scale had adequate internal and test-retest reliability estimates. In the present study, internal reliability estimate was adequate ($\alpha = .76$).

2.2.4. Subjective well-being

Subjective well-being was measured using the Satisfaction with Life Scale (SWLS) developed to assess the cognitive component of subjective well-being (Diener, Emmons, Larsen, & Griffin, 1985). The SWLS is a five-item self-report measure and participants are asked to rate the items using a seven-point scale (*strongly agree* = 7 to *strongly disagree* = 1; e.g., “I am satisfied with my life”). The scale had adequate internal reliability and strong test-retest coefficients for Turkish sample (Koker 1991). Internal reliability estimate from this study was strong ($\alpha = .85$).

2.3. Data analyses

Preliminary analyses were first conducted to investigate the scale characteristics and normal distribution assumption. Normality assumption was tested using skewness and kurtosis scores and their decision rules (skewness and kurtosis $\leq |1|$; (Field, 2009). Correlation analysis was also employed to examine the associations between the variables of the study. Thereafter, mediation analyses were conducted to test the hypothesised mediation models specifying the relationships among the variables (see Figures 1 and 2) using the PROCESS macro for SPSS (Hayes, 2018). Bootstrapping method generated 95% bias-corrected confidence intervals for the indirect effects using 10,000 bootstrap samples. If the bootstrap confidence interval for the indirect effect is above or below zero, this supports that the mediated effect is significant

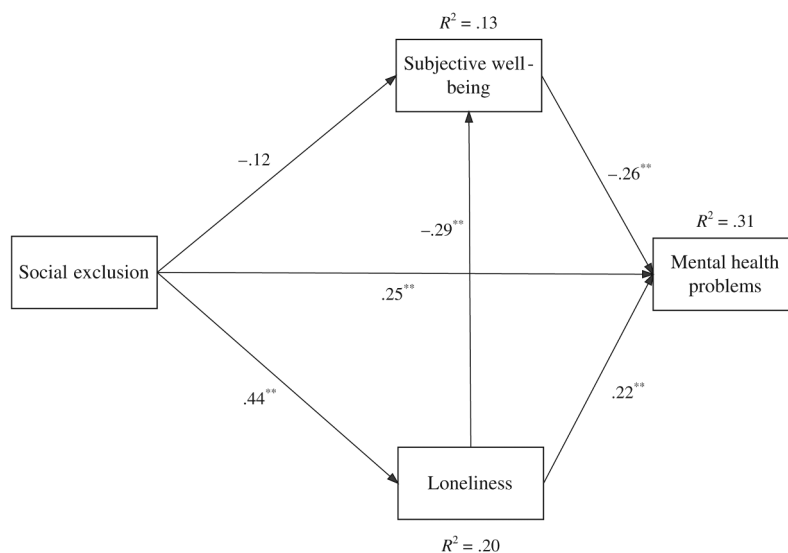


Figure 1. Standardised regression effects of the social exclusion on adolescent subjective well-being and mental health problems through loneliness.

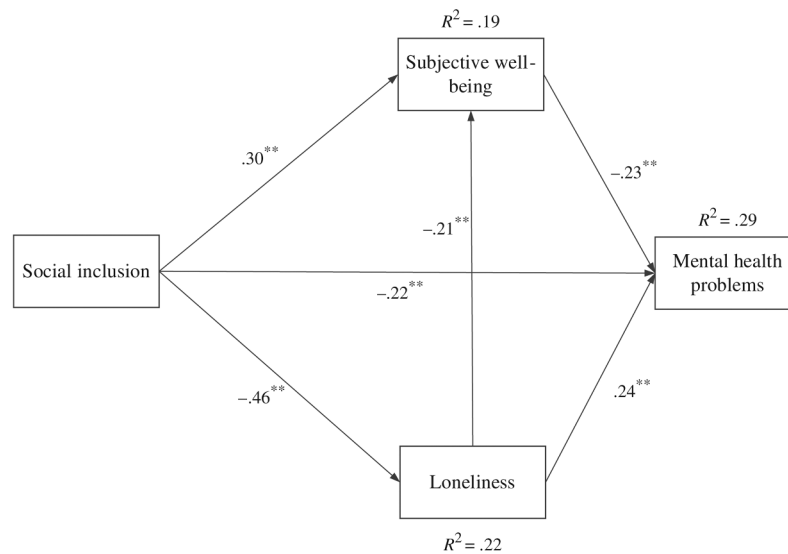


Figure 2. Standardised regression effects of the social inclusion on adolescent subjective well-being and mental health problems through loneliness.

(Preacher & Hayes, 2008). All statistical analyses were performed using IBM SPSS version 25.

3. Results

3.1. Preliminary analyses

Findings of the preliminary analyses indicated that skewness score ranged from $-.59$ to $.79$, and kurtosis values were between $-.37$ and $-.07$ (see Table 1), suggesting that all variables had a relatively normal distribution (Field, 2009). Correlation analysis outcomes demonstrated that social exclusion had a negative correlation with subjective well-being ($r = -.25$, $p < .001$); however, it was positively associated with loneliness ($r = .45$, $p < .001$) and mental health problems ($r = .35$, $p < .001$). Moreover, social inclusion was positively related to subjective well-being ($r = .39$, $p < .001$) and negatively associated with loneliness ($r = -.48$, $p < .001$) and mental health problems ($r = -.41$, $p < .001$). Loneliness also had

a negative association with subjective well-being ($r = -.35$, $p < .001$) and was positively correlated with mental health problems ($r = .41$, $p < .001$; see Table 1).

3.2. Mediation analyses

After the preliminary analyses, mediation analysis was first conducted to test the mediating effect of loneliness on the relationship of social exclusion with well-being and mental health (see Table 2). Standardised regression estimates indicated that social exclusion was a positive predictor of loneliness ($\beta = .44$, $p < .01$) and mental health problems ($\beta = .25$, $p < .01$) but a non-significant predictor of subjective well-being ($\beta = -.12$, $p = .11$). Loneliness also significantly predicted subjective well-being ($\beta = -.29$, $p < .01$) and mental health problems ($\beta = .22$, $p < .01$). Lastly, mental health problems were significantly predicted by subjective well-being ($\beta = -.26$, $p < .01$; see Figure 1). Indirect effects for social exclusion on

Table 1. Descriptive statistics and correlation coefficients between variables.

Scale	Descriptive statistics				Correlation coefficients (r)				
	Mean	SD	g_1	g_2	1	2	3	4	5
1. SE	9.17	4.02	.79	-.19	—				
2. SI	15.34	3.57	-.59	-.33	-.43*	—			
3. LS	22.32	7.25	-.39	-.26	-.25*	.39*	—		
4. UL	15.17	4.71	.53	-.37	.45*	-.48*	-.35*	—	
5. MHP	41.59	10.92	.43	-.07	.35*	-.41*	-.41*	.41*	—

Abbreviations: g_1 , skewness; g_2 , kurtosis; LS, subjective well-being; MHP, mental health problems; SE, social exclusion; SI, social inclusion; UL, loneliness. * $p < .001$.

Table 3. Indirect effects of social exclusion and inclusion on mental health problems.

Indirect effect keys	Indirect effect		95% CI	
	Effect	SE	Lower	Upper
Total effect	.46	.13	.22	.74
Social exclusion → loneliness → mental health	.28	.10	.09	.48
Social exclusion → well-being → mental health	.09	.07	-.03	.26
Social exclusion → loneliness → well-being → mental health	.10	.04	.03	.18
Social exclusion → loneliness → well-being	-.25	.07	-.40	-.12
Total effect	-.63	.15	-.94	-.34
Social inclusion → loneliness → mental health	-.34	.11	-.57	-.13
Social inclusion → well-being → mental health	-.21	.10	-.43	-.05
Social inclusion → loneliness → well-being → mental health	-.07	.04	-.16	-.01
Social inclusion → loneliness → well-being	.20	.08	.07	.37

Note: Number of bootstrap samples for percentile bootstrap CI: 10,000.

Abbreviations: CI, confidence interval; Effect, unstandardised coefficient; SE, standard error.

et al., 2015; Watson & Nesdale, 2012). Osterman (2000) stated that being excluded at school was associated with a variety of negative psychosocial outcomes, including loneliness.

Following, the results showed that loneliness partially mediated the association between social inclusion and subjective well-being and mental health problems. Social inclusion indirectly predicted adolescent mental health and well-being through loneliness. Previous research was consistent with these outcomes indicating that social inclusion was positively related to better mental health outcomes and greater well-being (DeWall et al., 2008; King et al., 1996; Malone et al., 2012; Shochet et al., 2011). Adolescents with high levels of social inclusion reported greater emotional well-being and lower psychological distress (Arslan, 2018a; Malone et al., 2012). Zimmer-Gembeck et al. (2007) found that peer acceptance significantly predicted adolescents' subsequent depressive symptoms, even controlling for prior symptoms (Kistner et al., 1999; Shochet et al., 2011). Additionally, findings of the study showed that loneliness had a full mediating effect on the association between social exclusion and subjective well-being and partially mediated the effect of social exclusion on adolescent mental health problems. Consistent with need-to-belong model and the literature, these outcomes have suggested that social exclusion is a painful experience and associated with greater psychosocial difficulties, poor academic outcomes, and lower well-being (Arslan, 2018d; Baumeister & Tice, 1990; Erdiç & Arslan, 2014; Osterman, 2000; Twenge & Campbell, 2003). Ladd and Kochenderfer-Ladd (2016) stated that socially excluded adolescents were likely at a disadvantage socially and psychologically, and they reported lower well-being indicators (Arslan, 2018d; Aydın et al., 2013; Gilman et al., 2013; Malone et al., 2012) and greater internalising and externalising problems (Arslan, 2018c; Buckley et al.,

2004; Gilman et al., 2013; Leary, 2015; Malone et al., 2012).

Findings of the study were also consistent with previous outcomes, indicating the mediation effect of loneliness on mental health symptoms and subjective well-being in adolescents (Cava, Buelga, & Tomás, 2018; Hombrados-Mendieta et al., 2013). Social exclusion and inclusion are closely associated with social isolation and loneliness and in turn, influence mental health and well-being (Baumeister & Leary, 1995). Loneliness is an unpleasant experience that has adverse impacts on adolescent psychosocial development (Cacioppo et al., 2006). Loneliness was found to be associated with greater internalising and externalising problems (Cavanaugh & Buehler, 2016; Kim et al., 2018), as well as lower subjective well-being (Moore & Schultz, 1983). Witvliet et al. (2010), for instance, indicated a mediating effect of loneliness on the association between clique isolation and depressive symptoms. Loneliness longitudinally also had a mediating effect on youth mental health and well-being outcomes (Jose & Lim, 2014; Qualter et al., 2010). Fontaine et al. (2009) reported that social preference longitudinally predicted adolescent internalising symptoms through loneliness, controlling for previous symptoms. Further outcomes also showed that social inclusion and exclusion indirectly predicted mental health problems by subjective well-being. Subjective well-being is strongly associated with various important outcomes, ranging from academic functioning to mental health (see, (Kansky & Diener, 2017). Suldo and Huebner (2004) showed the mediating effect of subjective well-being on the association between authoritative parenting and internalising and externalising problems of adolescents. Similarly, subjective well-being mediated the association between positive youth development attributes (e.g., bonding, resilience, social competence, and spirituality) and problem behaviours among adolescents (Sun & Shek, 2010).

Taken together, these outcomes provide evidence, supporting that loneliness is an important mechanism, which may help to understand the association between school belongingness and adolescent well-being and mental health.

4.1. Study implications and limitations

Findings of the present study highlight the importance of school belongingness-based preventions and interventions targeting to promote mental health and well-being in school settings. School belongingness constructs were found to be strong predictors of youth mental health problems and subjective well-being, and loneliness mediated the association between these factors and adolescent outcomes. In comparison to adolescents who reported high levels of social inclusion, adolescents with high social exclusion reported greater mental health problems and loneliness, as well as lower subjective well-being. These outcomes suggest there is a need to design a more comprehensive prevention and intervention approach for improving adolescent mental health and well-being. Interpersonal, ecological, and cognitive-behavioural approaches may be integrated to promote adolescents mental health and well-being in the context of school belonging (Shochet et al., 2011). Given the negative predictive effect of social exclusion, the outcomes support the importance of promoting inclusive experiences at school and enabling adolescents to find ways to improve the feelings of connectedness (Baumeister, 2012). School-based mental health providers could develop prevention and intervention strategies for adolescents who are excluded or poorly included at school, and they could focus on positive interpersonal experiences and skills, such as social activities, positive student–teacher relationships in these programs (Arslan, 2018c). Findings also showed that loneliness mediated the association between school belongingness factors and mental health and well-being. Thus, decreasing feelings of loneliness could facilitate adolescents to deal with exclusion and promote inclusive experiences, which in turn would improve their mental health and well-being. Interventions could be designed to reduce adolescents' loneliness. Cognitive-behavioural strategies could be useful for decreasing loneliness. These techniques may help to modify irrational beliefs and perceptions that can lead to feelings of loneliness. This approach could also be integrated with social skills training techniques, and this combination may be useful in helping adolescents learn effective ways to create positive social relationships (McWhirter, 1990). School-based mental health providers, for instance, could

provide services (e.g., group counselling) to decrease youths' loneliness and promote their social bonds. Briefly, these outcomes suggest the importance of preventions and interventions that improve the inclusive school experiences and promote the resources that may help to deal with exclusion.

Despite these significant implications for research and practice, the present study has a few methodological limitations. Firstly, the current study was conducted using a cross-sectional approach, which does not imply causality. Further studies should be conducted to investigate the longitudinal impacts of school belongingness factors on youth mental health and well-being. Next, using self-report measures are considered another limitation of the study. Given this limitation, it is warranted to examine the association between school belonging and the outcomes using different data collection approaches, such as teacher-reported mental health problems, qualitative approach. Participants of the study also included adolescents derived from a convenience sample of public high school students. In order to provide the generalisability of the results of this study, future research is needed to investigate the association between school belongingness constructs and adolescent outcomes with large and diverse samples. Taken all together, findings from the present study suggest that loneliness is an important mechanism that may help to explain the effect of school belongingness on adolescent well-being and mental health. The results highlight the importance of school belongingness-based preventions and interventions targeting to promote mental health and well-being in school settings.

Conflict of interest

The authors declared no conflicts of interest with respect to the research, authorship, and/or publication of this article.

Ethics statement

All procedures performed in studies involving human participants were in accordance with the ethical standards of the institutional and/or national research committee and with the 1964 Helsinki declaration and its later amendments or comparable ethical standards.

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