Autism Spectrum Disorder: A Cross-cultural Variability in Personal Identity

Dr. Aftab Khan
Longwood University

Dr. Michel Ferrari
University of Toronto, Canada

Abstract

This mixed-methods cross-cultural study compares the life narratives of personal identity in people with high functioning Autism Spectrum Disorder (ASD) in Canada and Pakistan using a multifaceted model of personality. Forty-six male participants (half diagnosed with ASD) were recruited from Karachi, Pakistan, and the Greater Toronto Area, Canada. People with Autism Spectrum Disorder were matched with non-ASD according to age and academic education. They were interviewed and given self-report questionnaires about different aspects of identity. The Canadian ASD group was significantly higher in social identity, as compared to the Pakistani ASD group; the Pakistani ASD group placed greater emphasis on communion in their narratives than did the Canadian ASD group. Both ASD groups placed greater emphasis on personal agency, and valued conservation significantly more highly, than did non-ASD participants. These results support the McAdams and Pals model, showing how biology and culture mutually inform personal identity narratives.

Keywords: Personal Identity, Autism Spectrum Disorder, Personal narrative, Cross-cultural

Autism Spectrum Disorder: A Cross-cultural Variability in Personal Identity

Personality psychologists have long sought to construct a comprehensive framework for understanding the whole person (e.g., Allport, 1937; McCrae & Costa, 1999; Kluckhohn, & Murray, 1953; Murray, 1938; Pratt & Matsuba, 2018; Stern, 1938). Drawing from McCrae & Costa's (1999) five-factor theory and the scholarly writings of Sheldon (2004), McAdams and Pals (2006) propose five guiding principles for understanding the whole person (also see McAdams & Zapata-Gietl, 2014).

This study adapts McAdams and Pals (2006) and Stern's (1938) conception of the experiencing person as integrating all these aspects in an individual's effort to live a good life to explore the unique identity of people with Autism Spectrum Disorder (ASD), as distinct from the general

population. More specifically, because the effects of biology (e.g., Ashton, 2013: Canli, 2006) and culture (e.g., McLean et al., 2018) are invariably confounded within any given personal development, we compare two expressions of human nature (typically developed and autism spectrum disorder) in two different cultures (Pakistan and Canada).

The New Big Five of Personality
Stern (1938) advocated the need for psychologists to study individual personal experience in ways that integrate biological and psychological attributes. Developing this perspective, McAdams and Pals (2006) propose five guiding principles for understanding the whole person: (1) *evolution and biological human nature* (i.e., individual biological variations and developmental patterns), (2) self-reported *dispositional traits* (i.e., personal identity characteristics such as friendliness or loneliness) (3) *characteristic adaptations* (i.e., the personal goals and values required for social roles), (4) *life narratives* (i.e., individuals' personal life stories that help to interpret their behaviour and establish their identity), and (5) *cultural context,* which influences the expression of personal traits, characteristic adaptations and life narratives. However, we agree with Renner (2010) that we need to complement and enrich this ''New Big Five'' with the three primary characteristics of persons proposed by Stern (1938; also see Shipley, 1961): multiplicity in unity (*unitas multiplex*), purposefulness, and individuality.

Evolution and Biological Human Nature
McAdams & Pals' (2006) first principle for understanding the whole person is the need to consider variations in human biology, since some characteristics of human behaviours—such as those typical of people with autism spectrum disorder (e.g., Cohen, et al., 2005; Freitag, 2007)—have biological underpinnings including imbalance neurochemicals (Guo & Commons, 2017). For example, studies have found atypical growth in the amygdala (a brain region responsible for emotional reaction) for individuals with ASD (e.g., Carper et al., 2006; Herrington et al., 2017). Studies have also found genetic (biological) markers for autism spectrum disorder that impact brain areas associated with social interaction and communication skills (e.g., Edmonds, 2008), helping to explain why people with ASD have difficulties around facial perception (e.g., Klin, et al., 2002). Many children with ASD have delayed language development, but they start talking fluently after the age of five (Powell, 2017).

Classical autism is known for impairments that include difficulties in social-communicative and behavioral domains, associated with learning difficulties, below average IQ, and language delays (APA, 2013). High functioning autism spectrum disorder shares the features of classical autism but without the associated learning difficulties or language delays, showing normal, or even above average, IQ (e.g., Asperger, 1944; Powell, 2017; Wing, 1981). Studies have also found that people with high functioning autism show an inclination to maintain norms and routines.

Dispositional Traits
Personality traits commonly identified through self-report questionnaires are understood in this model to be dispositions to act in particular contexts, McAdams & Pals' (2006) second principle for understanding the whole person. More specifically, one of the three characteristics of persons by Stern (1938), traits characterizing identity can be examined through people's self-understanding of (1) personal identity, (2) social identity (i.e., self in social context), (3) collective identity (i.e., self in relation to community, country and religion), or (4) relational

identity (i.e., self within intimate relationships with friends or romantic partners). According to Cheek and Briggs (1982) these four categories of identity constitute principle aspects of peoples' understanding of themselves. Recently, Cheek and Cheek (2018) explored how these four identity orientations distinctively effect on individuals' cognition, emotion, and behavior.

Individuals with ASD have a distinct pattern of self-understanding in this broad sense; they socialize and communicate with their friends and partners in ways different from the general population (e.g., Edmonds, 2008; Gutstein & Whitney, 2002): A deficit in social-cognitive development is also evident in those diagnosed with ASD (Burnside el al., 2017) Many prefer to live alone rather than intermingling with others (e.g., Tantam, 2012), and commonly display personality attributes such as honesty, perseverance, and a strong sense of justice (McMullen, 2000).

Characteristic Adaptations
McAdams and Pals (2006) argued that beyond differences in personal traits, individuals' lives vary due to motivational and developmental adaptations and diverse goals and values required for social roles. This also aligns with Stern's (1938) purposefulness (one of the three characteristics of persons). Schwartz (1992) developed a comprehensive model of basic human values that was used in a cross-cultural comparison of over 60 different nations. The ten values contained in Schwartz' *Basic Human Values Scale*—(1) *self-direction* (2) *stimulation* (3) *hedonism* (4) *achievement* (5) *power* (6) *security and safety* (7) *conformity* (8) *tradition* (9) *benevolence*, and, (10) *universalism*—are thought to reflect 4 basic value-orientations: (1) openness to change, (2) conservation, (3), self-transcendence, and (4) self-enhancement (also see Schwartz, 2015).

Individuals with ASD have different value orientations and motivations than do typically developed people in the general population. For example, using Schwartz' value scale (1992), Hirvela and Helkama (2011) found that people with ASD value tradition and security, and have a greater tendency to conform, as compared to non-autistics of similar ages and with equivalent levels of education. People with ASD also scored lower in the values of stimulation and benevolence compared to non-autistics. Some characteristic dispositional traits of people with ASD (e.g., honesty and truthfulness) may be due to a high valuing of conformity.

Life Narratives
Life narratives are another important dimension to the understanding personal identity. Many studies have shown that people understand themselves through their own life stories (e.g., Fivush et al., 2011; Kogler, 2012; Pasupathi & Hoyt, 2009; Pratt & Matsuba, 2018; Singer, 2004). During late adolescence and emerging adulthood, in particular, people strive to be understood through their life stories (McAdams, 2011). Themes of personal agency and communion are particularly important to people's life stories (e.g., Bakan, 1966; Chen et al., 2018; McAdams, 1980; Mansfield & McAdams, 1996): personal agency is associated with independent life accomplishments, whereas communion includes others in one's life accomplishments and involves a sense of belongingness (McAdams, 1993). Ideally, people live with the balanced integration of agency and communion (Bakan, 1966). Studying a large sample of adults and college students in a community, McAdams and his colleagues (1996) coded the theme of agency as: (1) self-mastery, (2) status/victory, (3) achievement/ responsibility, and (4)

empowerment; they coded the theme of communion as: (1) love/friendship, (2) dialogue, (3) caring/help, and (4) unity/togetherness.

The life stories of people with high functioning ASD have helped researchers understand their lives (e.g., Smith 2018) and recognize their extraordinary abilities in mathematics (e.g., Newport, 2001; Smith, 2018; Tammet, 2006) and creative writing (e.g., Lawson, 2006; William, 1992, 1994). Temple Grandin (1995a, 1995b), for example, emphasizes her strength in visual learning and her enjoyment of visually stimulating objects. Honesty and straightforwardness are prominent features in narratives of most people with ASD (McMullen, 2000). Some autobiographies also suggest that people with high functioning ASD reject the idea that they need to be "cured" (e.g., Sinclair, 1992). They consider autism a distinct way of being, not to be a disease or disability.

A few studies (e.g., Bruck et al., 2007; Vuletic, 2010; Vincent et al., 2017) have explored the autobiographical memories of people with ASD through structured questionnaires. Bruck and colleagues (2007) asked children with ASD to provide them with narratives of their life events. Their results showed that children with ASD recalled fewer life events, that their memories lacked detail, and that the participants had difficulty recalling personal factual knowledge. Vuletic (2010) conducted detailed life histories of 6 adults diagnosed with high functioning ASD that included their childhood memories and future aspirations. Vincent and colleagues (2017) explored the challenges and successes of seven university students on the spectrum through their autobiography.

Cultural Context
McAdams & Pals' (2006) final principle for understanding the whole person is that people's life stories reflect prevailing cultural norms in play when developing narrative identity (e.g., Flum, & Buzukashvili, 2018). Building on Erikson's theory of psychosocial development (Erikson & Erikson, 1997), Hammack (2011) argued that the self is highly connected to society and that narrative identity can be better understood by keeping culture and the social environment in mind. In fact, cultural differences surface in the *traits* people associate with their identity and the purposes they strive to accomplish as individuals (Renner, 2010; Stern, 1938). For example, people in collectivist societies share common goals of group harmony (e.g., Hammack, 2011; Markus & Kitayama, 1991), while people in individualistic societies emphasize personal uniqueness (Fiske et al., 1998). Thus, narratives identity of a person—including one's understanding of personal agency and communion—is influenced by the culture of the narrator. However, there has been relatively little cross-cultural exploration of agency and communion to conceptions of narrative identity.

There is also little research examining autism spectrum disorder cross-culturally. Freeth and colleagues (2013) found cultural variability in autistic traits between individuals with autism from Western culture (UK) and two Eastern cultures (India and Malaysia). Wakabayashi and colleagues (2007) found cross-cultural stability in the empathy and systemizing theory of sex differences, and extreme male brain theory of autism between participants diagnosed with high functioning ASD from the UK and Japan. They found that individuals with high functioning ASD had significantly higher scores on the Systemizing Quotient (SQ) than non-autistics. Their results also revealed that the non-ASD group had significantly higher scores on the Empathizing

Quotient (EQ) than the high functioning ASD group. Chung and colleagues (2012) investigated challenging behaviors including aggression, self-injurious behavior, and stereotypical behavior in children with ASD cross-culturally. The study found relatively few differences in the presence and severity of challenging behaviors between the participants from the four countries (the USA, South Korea, Israel, and the UK). This consistent pattern shows that challenging behaviors exhibited by individuals with ASD have a high degree of universality, even when diverse cultural contexts are taken into account.

The Present Study

This cross-cultural mixed-method study investigates the whole personal identity of people with high functioning ASD in Canada and Pakistan by exploring their self-reported identity traits, values, and life narratives. Traits are measured through standardized questionnaires. The life story interview questions were adapted from Ferrari, et al., 2011 (also see Khan and Ferrari, 2018). We frame our analysis in light of McAdams & Pals' (2006) 'new big five' and Stern's (1938) perspective of multiplicity in unity (*unitas multiplex*), purposefulness and individuality.

Methods

Participants
Forty-six male participants took part in this study: 24 were recruited from Karachi, Pakistan, and 22 were recruited from the Greater Toronto Area (GTA), Canada. Of these 46 participants, half had been diagnosed with autism spectrum disorder by qualified professionals; the other halves were typically developed people from the general population (non-ASD). All 22 Canadian participants in this study were born or raised in Canada. All 24 Pakistani participants in this study were also born or raised in Pakistan. Participants were matched for age, education, and marital status.

Recruitment. To recruit people with high functioning ASD various organizations serving people with ASD were contacted both in Karachi, Pakistan and in the GTA, Canada, serving those who receive a diagnosis of ASD from qualified professionals. The organizations where samples were recruited in the GTA, Canada, included *Kerry's Place Autism Services, Geneva Centre for Autism, The Redpath Centre for Social and Emotional Development,* and *Autism Ontario.*

The organizations that were contacted for participants recruited in Karachi, Pakistan included: *MaAyesha Memorial Centre; The Education Foundation; Institute of Behavioural Psychology; Department of Professional Psychology, Baheria University; Department of Special Education, University of Karachi; and Department of Psychiatry, The Aga Khan University Hospital.* Ethical approval was received from all these organizations.

In Pakistan, most interviews were conducted in the office of the Education Foundation, located at Mehmoodabad, Karachi; some were also conducted at the MaAyesha Memorial Centre, located at Shahrah-e-Faisal, Karachi. In Canada, interviews were conducted in the office of Kerry's Place Autism Services located at Brampton, and at the University of Toronto, Toronto.

Non-ASD participants from the general population were recruited randomly from the public and university libraries in Canada and Pakistan. In Pakistan, non-ASD participants were mostly interviewed in the office of The Education Foundation. In Canada, non-ASD participants were interviewed mostly at the University of Toronto and in a small reading room at the Mississauga Central Public Library.

Age. The 23 participants with ASD (M = 24. 39, SD = 5.00) were age matched with typically developed peers (M = 22. 95, SD = 4.26) [1]. An independent-sample t test indicated that the mean age of people with ASD (M = 24.39, SD = 5.00) did not differ from the mean age of those non-ASD (M = 22.95, SD = 4.26), t(42.92) = 1.046, p = .30, two-tailed.

Education. The results of an independent-sample t test indicated that years of academic education did not differ between participants, t(38.08) = 1.609, p = .11, two-tailed; thus, the mean years of education for people was similar for participants with ASD (M = 13.69, SD = 2.70) and the non-ASD groups (M = 14.78, SD = 1.78).

Marital status. Marital status did not differ between participants, t(36.22) = 1.036, p = .30, two-tailed; most participants were never married.

Procedure

To promote familiarity and comfort, interviews were conducted face-to face in the participants' native language (Urdu in Pakistan, and English in Canada). Participants met with the interviewer for one session lasting from about 45 to 90 minutes and included both open-ended interviews and self-report questionnaires[2]. In terms of interview questions, participants were asked a set of broad questions about their major goals of life, some of the most memorable events of life, difficult situations they have encountered in their life, and their concepts of their own personal identity. Verbal assent was given before beginning the interviews, which were audiotaped and transcribed verbatim. (Interviews of Pakistani participants were first transcribed verbatim in Urdu, and then translated into English.)

Measures

Disposition. Participants completed the Aspects of Identity Questionnaire (AIQ**-IV),** (Cheek, et al., 2002; also see Cheek and Cheek, 2018) to identify people's identity orientations in 4

---

[1]Most participants were between 18-30 years old. However, 1 participant from the Canadian non-ASD group was 31 years old, 1 participant from the Pakistani ASD group was 32 years old, and 2 participants from the Canadian ASD group were 31 and 33 years old.

[2]All interview questions were translated into Urdu and translated back into English. However, because English is the second official language in Pakistan and most schools, colleges, and universities have adopted English as their language of instruction, Pakistani participants had no difficulty reading and understanding English questionnaires.

categories: *personal* (10 items)*, social* (7 items)*, collective* (8 items)*,* and *relational* (10 **items).** Participants' responses were noted on a 5-point Likert-type scale ranging from 1 (Not important to my sense of who I am) to 5 (Extremely important to my sense of who I am).

Characteristic adaptations. Participants were also given the *Human Values Scale – PVQ-ESS* (Schwartz, 1992). This scale included 23 items divided into 10 basic values: (1) self-direction, (2) stimulation, (3) hedonism, (4) achievement, (5), power, (6) security, (7) conformity, (8) tradition, (9) benevolence, and (10) universalism. Participants' responses were recorded on a 6-point Likert-type scale ranging from 1 (Very much like me) to 6 (Not like me at all). Schwartz has grouped these 10 values into 4 broad dimensions: openness to change (values 1, 2, and 3), self-enhancement (values 4 and 5), conservation (values 6, 7, and 8), and self-transcendence (values 9 and 10).

Life narratives. Participants were also asked a few questions about their identity through their life narratives. These questions were adapted from a study by Ferrari et al., 2011 (also see Khan and Ferrari, 2018).

Life narrative interview coding scheme. Drawing from Bakan (1966), McAdams (2001, 2011) and Stern (1938) a coding scheme was developed to identify two major themes in people's life stories: (1) communion (help and care, social being, meaningful relationships, collective being, and contribution to society), and (2) agency (achievement/accomplishment, personal growth, and individuality). Two coders identified these themes in people's life stories as they relate to participants' self-understandings of their personal unity, individuality and purpose.

All transcripts were coded by the first author; a second coder scored 20% of the transcripts selected at random. Interrater reliabilities for themes of communion were: help and care (85%), meaningful relationships (82%), social being (87%), collective being (93%), and contribution to society (89%). Interrater reliabilities for the themes of agency were: achievement (89%), personal development (87%) and individuality (93%).

Results
Reliability of Measures

Internal reliability of the scales. The internal reliability alpha of the various aspects of identity scale for the ASD group were: personal (α =.81), social (.88), collective (.85), relational (.91) identities, and personal integrity (.72); and for the non-ASD group, personal (α =.81), social (.82), collective (.86), relational, and (.86) identities. The reliability for the 10 factors of the Schwartz Values Scale was quite low for some factors, so only the 4 broad values orientations were considered in this study. The internal alpha reliability of the ASD group was openness to change (α =.69), conservation (.72), self-transcendence (.75) and achievement (.83); and for the non-ASD group, openness to change (α =.66), conservation (.67), self-transcendence (.63), and achievement (.67).

Disposition
Table 1 shows the means and standard deviations of the AIQ-IV scale for the samples of various groups in this study.

Table 1
Mean scores and standard deviations of the aspects of identity and the value scale

Scales	ASD Overall (n = 23)	Non-ASD Overall (n = 23)	ASD Pakistan (n = 12)	Non-ASD Pakistan (n = 12)	ASD Canada (n = 11)	Non-ASD Canada (n = 11)
Identity						
Personal identity	3.98 (0.57)	4.02 (0.64)	4.20 (0.42)	3.75 (0.70)	3.75 (0.64)	4.31 (0.43)
Social identity	2.41 (1.03)	3.19 (0.97)	1.98 (0.69)	3.29 (1.03)	2.88 (1.16)	3.09 (0.93)
Collective identity	2.45 (0.90)	3.17 (0.78)	2.37 (0.92)	3.38 (0.76)	2.54 (0.92)	2.95 (0.78)
Relational identity	2.94 (1.10)	3.99 (0.68)	2.26 (0.81)	3.71 (0.74)	3.68 (0.90)	4.29 (0.49)
Social identity (overall)	2.60 (0.85)	3.45 (0.59)	2.20 (0.64)	3.46 (0.77)	3.03 (0.86)	3.44 (0.32)
Values						
Conservation	5.32 (0.68)	4.88 (0.75)	5.50 (0.67)	4.64 (0.85)	5.13 (0.67)	5.13 (0.56)
Openness to Change	3.56 (0.54)	4.55 (0.69)	3.36 (0.54)	4.26 (0.72)	3.78 (0.47)	4.87 (0.51)
Self-Transcendence	4.98 (0.55)	5.00 (0.56)	4.96 (0.52)	4.86 (0.64)	5.00 (0.60)	5.15 (0.45)
Achievement	3.52 (0.91)	4.45 (0.94)	3.41 (1.12)	4.37 (0.85)	3.63 (0.63)	4.54 (1.05)

A two-way ANOVA found a significant interaction, $F(1, 42) = 2.063, p = .04,$ between the two ASD groups on *overall social identity*[3]: people with ASD living in Pakistan scored significantly lower on overall social identity as compared to the non-ASD group in Pakistan, $F(1, 42) = 16.845, p = .001$), whereas people with ASD living in Canada scored similarly on overall social identity to the non-ASD group in Canada. More specifically, we found no differences between the two non-ASD groups; however, a higher score for overall social identity was found among the Canadian ASD group compared to those from the Pakistani ASD group, $F(1, 21) = 6.801, p = .01$.

We next consider various aspects of the AIQ-IV individually: Mean scores on *relational identity* of the Pakistani ASD group ($M = 2.26, SD = 0.81$) were significantly lower than the Canadian ASD group ($M = 3.68, SD = 0.90$), $F(1, 42) = 15.589, p = .001$; furthermore, the mean scores of both ASD groups were significantly lower than the mean scores of both non-ASD groups, $F(1, 42) = 21.284, p = .001$. Finally, the mean scores of the Pakistani non-ASD group were significantly lower than those of the Canadian non-ASD group, $F(1, 21) = 4.661, p = .04$. No significant differences found for any of the other dimensions of the AIQ-IV.

---

[3] A measure we created that combines the social, collective, and relational identity items of the AIQ-IV,

in order to contrast all social aspects of identity with the personal aspect of identity.

Characteristic Adaptations
Recall that Schwartz's 10 values were grouped into 4 main dimensions (i.e., conservation, openness to change, self-transcendence, and achievement). Table 1 shows the means and standard deviations of these four values for the groups in this study.

A two-way ANOVA found a significant interaction on the value of *conservation*, $F(1, 42) = 4.233$, $p = .04$: the Pakistani ASD group valued conservation more highly than did the non-ASD group from Pakistan, whereas the Canadian ASD group valued conservation no differently than non-ASD Canadians. The two non-ASD groups did not differ on the value of conservation. However, a one-way ANOVA found mean scores of both ASD groups were significantly higher on the value of conservation than those of the non-ASD groups, $F(1, 42) = 4.386$, $p = .04$. The value of *openness to change* did not differ significantly between the two ASD groups or between the two non-ASD groups; however, the mean scores of both ASD groups were significantly lower than those of the non-ASD groups, $F(1, 42) = 34.703$, $p = .001$. Likewise, mean scores between the two ASD groups and the two non-ASD groups did not differ on the value of *achievement*; however, the mean scores of the ASD groups were significantly lower compared to the non-ASD groups on the value of achievement, $F(1, 42) = 11.282$, $p = .002$. No significant differences between the ASD groups, the two non-ASD groups, or between both ASD and non-ASD group considered together were found for the value of *self-transcendence*; however, in depth analyses found differences in sub-categories of the Schwartz Value Scale[4].

Qualitative Analysis of Life Narratives
Let us now consider how people with and without ASD from Pakistan and Canada understand themselves through two major themes in their life narratives: (1) communion, and (2) personal agency.

Communion. Table 2 shows mean scores and standard deviations for the theme of communion and its components. An independent-samples *t* test found that the Pakistani ASD group referred to communion more often than did the Canadian ASD group, $t(19.41) = 1.91$, $p = .07$, two-tailed, $d = 0.84$. In fact, both ASD and non-ASD groups from Pakistan made greater reference to communion than did either the ASD or non-ASD groups from Canada, $t(43.02) = 2.10$ $p = .04$, two-tailed, $d = 0.61$.

Table 2
Mean and standard deviations for the themes of communion and agency.

Themes of narrative identity	ASD Pakistan	Non-ASD Pakistan	ASD Canada	Non-ASD Canada
Communion overall	0.88 (0.58)	0.96 (0.38)	0.49 (0.39)	0.81 (0.30)
Help & care	2.41 (2.42)	2.33 (1.61)	0.72 (0.46)	1.00 (0.63)

---

[4] An in-depth analysis of the sub-components of the PVQ showed that people with ASD gave greater value to conformity than those in the non-ASD groups ($t(44) = 2.251$, $p = .02$) and less value to power ($t(44) = 4.092$, $p = .001$), achievement ($t(44) = 3.425$, $p = .001$), hedonism ($t(44) = 4.208$, $p = .001$), stimulation ($t(44) = 6.951$, $p = .001$) and tradition ($t(44) = 1.983$, $p = .05$).

Relationship	0.83 (0.71)	0.75 (0.62)	0.72 (1.00)	1.45 (0.52)
Social being	0.25 (0.45)	0.41 (0.51)	0.18 (0.40)	0.45 (0.52)
Collective being	0.33 (0.49)	0.25 (0.45)	0.09 (0.30)	0.27 (0.46)
Societal Contribution	0.58 (0.79)	1.08 (0.51)	0.72 (0.64)	0.90 (0.53)
Agency overall	1.50 (0.55)	1.27 (0.69)	1.36 (0.48)	1.03 (1.03)
Achievement/Accomplishment	1.75 (1.05)	0.75 (0.75)	1.36 (1.20)	0.90 (0.70)
Personal development	2.08 (1.50)	2.25 (1.65)	1.81 (0.75)	1.45 (0.93)
Individuality	0.66 (0.49)	0.83 (0.57)	0.90 (0.30)	0.72 (0.46)

This overall difference reflects a difference in the subthemes associated with communion. For example, the theme of *help and care* was significantly lower in the Canadian sample: The theme of help and care is characterized by statements like the following: "I like to help people, I make arts and crafts. I also make boxes, piñatas, and designs." (Interview 7, ASD Pakistan) or "I used to help my mom out, when she needed it, after my dad died" (Interview 26, ASD Canada). There were no differences between the ASD and non-ASD groups on the theme of help and care, however, the Pakistani ASD group made significantly greater mention of the theme of *help and care* than did the Canadian ASD group, $t(11.88) = 2.362$, $p = .03$, two-tailed; likewise, the Pakistani non-ASD group made significantly greater mention of this theme than did the Canadian non-ASD group, $t(14.54) = 2.648$, $p = .01$, two-tailed.

The theme of meaningful relationships was characterized by statement like the following: "The goals for my friends and my family are to keep on interacting socially and professionally with them and also to increase communication with them" (Interview 6, ASD Pakistan) or "I want to settle down with someone and get married" (Interview 30, ASD Canada). None of the groups (ASD or non-ASD) differed in mention of meaningful relationships, however, an independent sample t test found that the Canadian non-ASD group mentioned meaningful relationships significantly more often than did the Pakistani non-ASD groups, $t(20.85) = 2.951$, $p = .008$, two-tailed. And there was one other striking difference between the ASD and non-ASD participants' life narratives concerning the theme of communion: both ASD groups expressed their *desire* for togetherness (communion) as a hope for the future, whereas both non-ASD groups spoke of their *experience* of it in the past.

Personal agency. Table 2 also shows Mean scores and standard deviations for the theme of personal agency and its components. Both ASD groups tended to place greater emphasis on the theme of personal agency in their life narratives than did the non-ASD groups, $t(43.18) = 1.678$, $p = .10$, two tailed, $d = .49$. More specifically, no differences were found in how all four groups discussed personal achievement/accomplishment, characterized by statements like the following: "I used to drive in places that were empty, with barely any traffic and no signals, […] Then I started driving on the highway […]. After that I started driving in the city. After one year of driving I was confident enough that I could drive anywhere at any time" (Interview 2, ASD Pakistan); or "I have accomplished a lot in the last couple of years. The last few years that I have been in college have been especially challenging" (Interview 32, ASD Canada).

An independent-samples t test found both ASD groups mentioned achievement/accomplishment significantly more often than did the non-ASD groups, $t(37.41) = 2.66$, $p = .01$, two-tailed. There we did find the mention of personal achievement/accomplishment was significantly higher in the Pakistani ASD group compared to the Pakistani non-ASD group, $t(19.90) = 2.671$, $p = .01$,

two-tailed, while there was no significant differences between the Canadian ASD and non-ASD participants.

Discussion

This study integrates McAdams and Pals' (2006) and Stern (1938)'s models of personal identity to investigate aspects of personality of individuals with autism spectrum disorder (ASD) as compared to typically non-ASD individuals living in Canada and Pakistan. According to these models, both biological human nature and culture are essential to the manifestation of dispositional traits, characteristic adaptations (expressed through values), and personal narratives that distinguish people and make their lives personally meaningful (McAdams & Pals, 2006). Implied in these models is an understanding of persons as purposeful individuals, with a multiplicity of aspects that are nevertheless united in their unique lived experience (Renner, 2010; Stern, 1938).

The following discussion grapples with these various aspects of personal identity.

Disposition

Since biological differences between ASD and Non-ASD participants are assumed in this study, based on the evidence discussed earlier (e.g., Carper et al., 2006; Edmonds, 2008; Freitag, 2007; Guo & Commons, 2017;; Herrington et al., 2017; Klin, et al., 2002; Powell, 2017), we begin our discussion with observed differences in the dispositions of both groups.

People have various attributes that figure into how they construct their personal understanding of self and identity. Cheek and colleagues (2002; also see Cheek and Cheek 2018), in their *Aspect of Identity Questionnaire* (AIQ), include four elements of identity: (1) personal, (2) social, (3) collective, and (4) relational. Our discussion of identity traits explored the four aspects of identity constructed by Cheek & colleagues (2002) and found differences between Canadian and Pakistani cultures that extended to both ASD and non-ASD members living in them.

Both Pakistani groups scored lower in *relational identity* compared to both the Canadian groups, perhaps due to Pakistanis' general reluctance to discuss intimate relations. Most participants had never been married and, in the prevailing religious atmosphere in Pakistan, expressions of intimacy are considered taboo and non-marital relationships very sinful (The Quran, 17-32; also see Baldauf, 2004; Inhorn, 2018; Jafar, 2005), unlike the situation in Canada, where people are more liberal and discussions about intimate relations are not considered taboo. Relational identity is an aspect of overall social identity (e.g., Spear, 2011; Tajfel et al., 1971) and—similar to relational identity—Canadians with ASD demonstrated more well-developed social identities than Pakistanis with ASD, perhaps due to the Canadian ASD group's intensive training in social skills (e.g., Tse et al., 2007; Waugh & Peskin, 2015). Most Canadian participants in the ASD group underwent social group therapy based on theory of mind (Baron-Cohen & Wheelwright, 2006) offered by organizations that support individuals diagnosed with ASD, such as Kerry's Place Autism Services and the Geneva Centre for Autism. Generally, in social group therapy, for example, where people with ASD learn how to interact and socialize with others (Feng et al., 2008), despite limitations in social skills, often by practicing taking the other's perspective (e.g., DSM-V, 2013; Gillberg, 1998). This social training may explain why the Canadian ASD group associated themselves with social identity traits while the Pakistani ASD group did not, since

participants in the Pakistani ASD group have no access to this kind of therapy or social skills training due to lack of funding and expertise. Even so, overall social identity was significantly lower for both ASD groups as compared to the non-ASD groups, results consistent with their clinical diagnosis of ASD (e.g., DSM-V, 2013, also see Goldstein & DeVries, 2017).

Characteristic Adaptations
Understanding people's values is crucial to understanding their characteristic adaptations because values guiding individual's life in achieving desirable goals (e.g., Hitlin, 2011; McAdams & Pals, 2006; Schwartz, 1992 & 2015).

The ASD groups from Canada and Pakistan had similar profiles for the values of conservation, openness to change, self-transcendence, and achievement, suggesting that their basic values are independent of culture and consistent with diagnostic characteristics for ASD. More specifically, both groups with ASD placed a significantly higher emphasis on conservation compared to typically developed people from Canada and Pakistan. Recall that conservation includes two sub-categories, security and conformity: *Security* endorses societal stability and *conformity* endorses respect for social norms (Schwartz, 1992 & 2015). Although studies investigating the values of people with ASD are very recent, our results are consistent with those of others using Schwartz's (1992) value scale to study people diagnosed with ASD (e.g., Hirvela & Helkama, 2011; Myyry et al., 2010).

Our study also found that both Canadian groups more highly valued openness to change than did the Pakistan groups. Recall that openness to change is understood by Schwartz (1992) in terms of three sub-categories (*self-direction, stimulation,* and *hedonism)* that concern taking independent action, excitement and challenges, and pleasure in life; all three fall under the broader category of personal values (Schwartz, 1992 & 2015). Since, Pakistani culture values togetherness, this might explain why Pakistanis (both ASD and non-ASD groups) scored lower on openness to change compared to Canadians.

Life Narratives
Several studies have underlined the centrality of communion (or togetherness) and agency (or autonomy) in the life stories of non-ASD participants (e.g., Abele & Wojciszke, 2019; Bakan, 1966; Kogler, 2012; Mansfield & McAdams, 1996; McAdams, 1980; McAdams & Pals, 2006). Narrative analysis in this study confirmed the importance of communion and agency in typically developed (non-ASD) people, and found they also characterize the life-narratives of people with ASD. However, we found a higher tendency towards endorsing the theme of communion in Pakistanis with ASD compared to Canadians with ASD, suggesting a cultural influence, even for those with a social disability. More specifically, of the five subthemes that make up the broad theme of communion (*help and care, relationship, social being, collective being,* and *contribution to society*) only *help and care* was significantly higher among Pakistanis with ASD, replicating the results of a previous study on the non-ASD Pakistani population (Khan, 2008).

Because Islam is integral to the national identity of Pakistan (Jafar, 2005; also see the constitutional laws of Pakistan, 1973), and because Zakat[5] is one of the five pillars of Islam

---

[5]Zakat requires Muslims to help needy people with money, or in physical and emotional ways.

(Kashif et al., 2018; Schumm & Kohler, 2006), people with ASD might have adopted the characteristic from the broader Pakistani culture; constantly seeing people helping others might incline the Pakistani ASD group to also help others as a matter of custom, not out of any deep empathy or understanding of their immediate experience. Kashif and colleagues (2018) found people in Pakistan experienced a higher level of happiness and self-protection against the realm of evil spirits after giving Zakat (i.e., giving money to needy people). In addition, most people in Pakistan live with their extended family (Avan & Akhund, 2006), a situation often requires helping others; Canadian ASD participants most often live independently, which may promote individuality and autonomy.

Furthermore, we found that while Pakistani participants more fully endorsed the theme of togetherness in their life stories than did Canadians overall, a closer look found that the non-ASD groups from both countries did not differ significantly; it was the Canadian ASD group who expressed fewer communion expressions in their life stories compared to the Pakistani ASD group.

Cultural Context
We have been highlighting cultural differences between Canada and Pakistan throughout our discussion. To review, non-ASD participants from both countries shared the same level of expressions of communion and personal agency in their life stories and valued both equally—a balance considered part of an ideal life (Bakan, 1966). However, we found two major cultural differences in the specific expression of communion. Both Pakistani groups expressed the theme of *help and care* more than the Canadian groups; counter-intuitively, the Canadian non-ASD groups placed greater emphasis on *relational identity* than did the Pakistani non-ASD, but this simply reflects kinds of questions used in this subscale that relate to intimate personal relationships.

Limitations
Due to time and funding constraints, our study was limited to investigating men with high functioning ASD and those without ASD in Canada and Pakistan, living in urban cosmopolitan cities: the Greater Toronto Area (GTA) in Canada and Karachi in Pakistan. We excluded female participants for several reasons: first, ASD is four times more prevalent in males than in female within populations, perhaps because girls are less likely to be diagnosed unless they exhibit major cognitive or behavioral difficulties. This is especially true of women with high functioning ASD in Pakistan. Due to social stigma, women are less likely to be diagnosed with any clinical diagnosis because most marriages are arranged in Pakistan, and it is difficult for parents to find a groom for their daughter if she has a clinical diagnosis. Indeed, given broader cultural expectations in Pakistan, social withdrawal in women with high functioning autism spectrum disorder would often be ignored in Pakistan: people simply considering them innocent or shy.

This point suggests a larger issue: While diagnosis of ASD in Pakistan and Canada for our study both relied on the American Psychiatric Association criteria, delivered by clinicians specializing in ASD, and in that sense may be considered universal, the possibility remains that the practice of diagnosis may differ in Pakistan and Canada; ideally. We would need a third country participating to assure that characteristics of participants with ASD, considered here to be an expression of basic biological differences, really are universal. Finally, the ASD group was

matched with the typically developed populations only by age, education and marital status, but they may differ on other parameters such as adaptive behavior skills, mental health, emotional intelligence, and family circumstances.

Conclusion

Although we found similarities between people with ASD living in two different countries, cultural upbringing clearly matters to the lived personal identity of people diagnosed with ASD. For instance, Pakistanis with ASD had the advantage of living in extended families, which might promote a feeling of togetherness; the Canadian ASD group benefited from the availability of social skills training (for example, social group therapy) that might enhance their ability to socialize, as compared to the Pakistani ASD group. Still, we find the results of our study support the model of identity proposed by McAdams and Pals (2006), as augmented by Stern (1938) in which biology and culture jointly contribute to dispositions, characteristic adaptations and life stories that give people a sense of purpose and personal identity. We hope that our study will encourage future research investigating individual differences in personal identity attuned to the joint influences of biology and culture.

References

Abele. A., & Wojciszke, B. (2019). *Agency and communion in social psychology*. NEW York, NY: Routledge.

Allport, G. W. (1937). *Personality: A Psychological Interpretation.* New York: Holt, Rinehart &Winston.

American Psychiatric Association. (2013). *DSM-V, Diagnostic and Statistical Manual of Mental Disorders (5th Edn.)*. Arlington, VA: American Psychiatric Association.

American Psychiatric Association. (2000). *DSM-IV, TR, Diagnostic and Statistical Manual of Mental Disorders (4th Edn.)*. Washington DC: American Psychiatric Association.

Ashton, M. C. (2013). *Individual differences and personality*. Elsevier Inc, San Diego, CA.

Asperger, H. (1944). Die 'Autistischen Psychopathen' im Kindesalter. *Archiv fur Psychiatrie und Nervenkrankheiten. 117*, 76–136.

Avan, I. B., & Akhund, S. (2006). Role of family type in idealization of a larger number of children by husbands in Pakistan. *Journal of Biosocial Science, 38*, 203-220.

Bakan, D. (1966). *The Duality of Human Existence: Isolation and Communion in Western Man.* Boston: Beacon press.

Baldauf, S. (2005). Pakistan religious law challenged: Rights groups condemn ordinances that call for harsh penalties for adultery, drinking, and premarital sex. *The Christian Science Monitor,* (Retrieved 27 January 2014, http://www.csmonitor.com/2005/0302/p06s01-wosc.html)

Baron-Cohen, S., & Wheelwright, S. (2006). Systemizing empathy: Teaching adults with Asperger syndrome or high-functioning autism to recognize complex emotions using interactive multimedia. *Developmental Psychology, 18*, 591-617.

Bruck, M., London, K., Landa, B., & Goodman, J. (2007). Autobiographical memory and suggestibility in children with autism. *Development and Psychopathology, 17*, 73-95.

Bruner, J. (1986). *Actual Minds, Possible Worlds.* Cambridge, MA: Harvard University Press.

Bruner, J. S. (1990). *Acts of Meaning*. Cambridge, MA: Harvard University Press.

Burnside, K., Wright, K., & Poulin-Dubois, D. (2017). Social motivation and implicit theory of mind in children with autism spectrum disorder. *Autism Research, 10*(11), 1834-1844

Canli, T. (2006). Biology of personality and individual differences. The Guilford publication, New York, NY.

Carper, R. A., Wideman, G. M., & Courchesne, E. (2006). Structural neuroimaging. In: S. Moldin (Ed.), Understanding Autism, (pp. 349–377). Boca Raton, FL: CRC Press.

Cheek, J. M., & Briggs, S. R. (1982). Self-consciousness and aspects of identity. *Journal of Research in Personality, 16,* 401-408.

Cheek, N., & Cheek, J. (2018). Aspects of identity: From the inner-outer metaphor to a tetrapartite model of the self. *Self and Identity, 17*(4), 467-482.

Cheek, J. M., Smith, S.M., &Tropp, L. R. (2002). *Relational identity orientation: A fourth scale for the AIQ.* Paper presented at the meeting of the Society for Personality and Social Psychology, Savannah, GA.

Chen, F., Zhu, S., & Bi, C. (2018). The development of self-esteem and the role of agency and communion: A longitudinal study among Chinese. *Journal of Child and Family Studies, 27*(3), 816-824

Chung, K., Jung, W., Yang, J., et al. (2012). Cross cultural differences in challenging behaviors of children with autism spectrum disorders: An international examination between Israel, South Korea, the UK, and the USA. *Research in Autism Spectrum Disorders, 6*, 881-889.

Cohen, D., Pichard, N., Tordjman, S., et al. (2005). Specific genetic disorders and autism: clinical contribution towards their identification. *Journal of Autism and Developmental Disorders, 35*, 103-16.

Edmonds, G. (2008). *Asperger Syndrome and Social Relationships: Adults Speak Out About Asperger Syndrome*. London, England: Jessica Kingsley Publishers.

Erikson, E. H., & Erikson, J. M. (1997). *The life cycle completed: Extended version.* New York: Norton.

Feng, H., Lo, Y., Tsai, S., & Cartledge, G. (2008). The effects of theory-of-mind and social skill training on the social competence of a sixth-grade student with autism. *Journal of Positive Behavior Intervention, 10*(4), 228-242.

Ferrari, M., Khan, A., Benayon, M., & Nero, J. (2011). Phronesis, Sophia, and Hochma: Developing wisdom in Islam and Judaism. *Research in Human Development, 8*(2), 128-148.

Flum, H., & Buzukashvili, T. (2018). Identity development and future orientation in immigrant adolescents and young adults: A narrative view of cultural transitions from Ethiopia to Israel. *New Directions for Child and Adolescent Development, 2018*(160), 15-30

Freitag, C. M. (2007). The genetics of autistic disorders and its clinical relevance: a review of theliterature. *Molecular Psychiatry, 12*, 2–22.

Fiske, A. p., Kitayama, S., Markus, H. R., &Nisbett, R. E. (1998).The cultural matrix of social psychology. In D. T. Gilbert, S. T. Fiske, & G. Lindzey (Eds.), *The Handbook of Social Psychology* (Vol. 2; 4th ed.; pp. 915-981). Boston, MA: McGraw Hill.

Fivush, R., Habermas, T., Waters, T., & Zaman, W. (2011). The making of autobiographical Memory: Intersections of culture, narratives and identity. *International journal of Psychology, 46*(5), 321-345.

Freeth, M., Sheppard, E., Ramachandran, R., & Milne, E. (2013). A cross-cultural comparison of autistic traits in the UK, India and Malaysia. *Journal of Autism and Developmental Disorders, 43*(11), 2569-2583.

Gillberg, C. (1998). Asperger syndrome and High Functioning Autism. *British Journal of Psychiatry, 171*, 200-209.

Goldstein, S., & DeVries, M. (Eds.). (2017). *Handbook of dsm-5 disorders in children and adolescents*. Cham: Springer.

Grandin, T. (1995a). How people with autism think. In E. Schopler& G. B. Mesibov (Eds.), *Learning and Cognition in Autism* (pp. 137–156). New York: Plenum Press.

Grandin, T. (1995b). The learning style of people with autism: An autobiography. In K. A. Quill (Ed.), *Teaching Children with Autism: Strategies to Enhance Communication and Socialization* (pp. 33–52). New York: Delmar.

Guo, Y., & Commons, K. (2017). Serotonin neuron abnormalities in the BTBR mouse model of autism. *Autism Research: Official Journal of the International Society for Autism Research, 10*(1), 66-77

Gutstein, S. E., & Whitney, T. (2002). Asperger syndrome and the development of social Competence. *Focus on Autism and Other Developmental Disabilities, 17*, 161-171.

Hammack, P. L. (2011). *Narrative and the Politics of Identity: The Cultural Psychology of Israeli and Palestinian Youth.* New York, NY: Oxford University Press.

Herrington, J., Maddox, B., Kerns, C., Rump, K., Worley, J., Bush, J., Miller, J. (2017). Amygdala volume differences in autism spectrum disorder are related to anxiety. *Journal of Autism and Developmental Disorders, 47*(12), 3682-3691

Hirvela, S. & Helkama, K. (2011). Empathy, values, morality and Asperger's syndrome. *Scandinavian Journal of Psychology 52,* 560-572.

Hitlin, S. (2011).Values, personal identity, and the moral self. In S. Hitlin. *Handbook of Identity Theory and Research (Vols. 1 and 2).* New York, NY: Springer.

Inhorn, M. (2018). Islam, sex, and sin: IVF ethnography as Muslim men's confessional. *Anthropological Quarterly, 91*(1), 25-51.

Jafar, A. (2005). Women, Islam, and the state in Pakistan. *Gender issues, 22*(1), 35-55.

Kashif, M., Jamal, F. K., & Abdur Rehman, M. (2018). The dynamics of zakat donation experience among Muslims: A phenomenological inquiry. *Journal of Islamic Accounting and Business Research, 9*(1), 45-58.

Khan, A., & Ferrari, M. (2018). Wisdom of young adults with high functioning autism in Canada and Pakistan: A cross-cultural study. *Journal of Education & Social Sciences, 6*(1), 3-22

Khan, A. (2008). *Wisdom and Cultural Identity in Pakistan* (Masters Thesis). *Applied Psychology and Human Development*, University of Toronto, Toronto, ON.

Klin, A., Jones, W., Schultz, R. T., Volkmar. F. & Cohen, D. J. (2002).*Visual fixation patterns during viewing of naturalistic social situations as predictors of social competence in individuals with autism. Archives of General Psychiatry59,* 809–816.

Kluckhohn, C., & Murray, H. A. (1953). Personality formation: The determinants. In C. Kluckhohn, H. A. Murray, & D. M. Schneider (Eds.), *Personality in Nature, Society, and Culture* (pp. 53–67). New York: Knopf.

Kogler, H. (2012). Agency and the other: On the intersubjective roots of self-identity. *New Ideasin Psychology, 30*, 47-64.

Lawson, W. (2006). Coming out, various. In D. Murray (Ed.). *Coming out Asperger* (pp. 200-213). London: Jessica Kingsley Publishers.

Mansfield, E. D., & McAdams, D. P. (1996). Generativity and themes of agency and communion in adult autobiography. *Personality and Social Psychological Bulletin, 22*, 721-731.

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implication for cognition, emotion

and motivation. *Psychological Review, 98,* 224-253.

McAdams, D. P. (1980). A thematic coding system for intimacy motive. *Journal of Research in Personality, 14,* 413-432.

McAdams, D. P. (1993). *The Stories We Live By.* New York: Harper Collins.

McAdams, D. P. (2001). *Coding autobiographical episodes for themes of agency and communion*. Northwestern University.

McAdams, D. P. (2011). Narrative identity. In S. J. Schwartz (Ed.), *Handbook of Identity Theory and Research* (pp. 99-106). New York: Springer.

McAdams, D. P., & Zapata-Gietl, C. (2014). Three strands of identity development across the human life course: Reading Erik Erikson in full. In K. C. McLean & M. Syed (Eds.), *The Oxford handbook of identity development*. New York, NY: Oxford University Press

McAdams, D. P., & Pals, J. L. (2006). A new big five: Fundamental principles for an integrative science of personality. *American Psychologist, 61,* 678-694.

McAdams, D. P., Hoffman, B. J., Mansfield, E. D., & Day, R. (1996). Themes of agency and communion in significant autobiographical scenes. *Journal of personality, 64* (2), 339-377.

McCrae, R. R., & Costa, P. T., Jr. (1999). A five-factor theory of personality. In L. Pervin & O. John (Eds.), *Handbook of Personality: Theory and Research* (pp. 139–153). New York: Guilford Press.

McLean, K., Ligendahl, J., Fordham, C., Alpert, E., Marsden, E., Szymanowski, K., & McAdam, D. (2018). Identity development in cultural context: The role of deviating from master narratives. *Journal of Personality, 86*(4), 631-651

McMullen, P. (2000). The gifted side of autism. *Focus on Autism and Other Developmental Disabilities, 15*, 239–242.

Murray, H. A. (1938). *Explorations in Personality.* New York: Oxford University Press.

Myyry, L., Juuja¨rvi, S., & Pesso, K. (2010). Empathy, perspective taking and personal values as predictors of moral schemas. *Journal of Moral Education, 39*, 213–233.

Newport, J. (2001). *Your Life is Not a Label: A Guide to Living Fully with Autism and Asperger's Syndrome for Parents, Professionals and You!* Arlington, TX: Future Horizons.

Pasupathi, M., & Hoyt, T. (2009). The development of narrative identity in late adolescence and emergent adulthood: The continued importance of listeners. *Developmental Psychology, 25*, 558-574.

Powell, T. (2017). *Recognizing Asperger's syndrome (Autism Spectrum Disorder): A practical guide to adult diagnosis and beyond*. Routledge, London.

Pratt, M. W., & Matsuba, K. M. (2018). *The life story, domains of identity, and personality development in emerging adulthood: Integrating narrative and traditional approaches. Oxford.*

Renner, K. H. (*2010). The "New Big Five" from a personalistic point of view. New Ideas in Psychology, 28*, 175-182.

Schumm, W. R., Kohler, A. L. (2006). Social cohesion and the five pillars of Islam: A comparative perspectives. *American Journal of Islamic Social Science, 23*, 126-136.

Schwartz, S. H. (2015). Basic individual values: Sources and consequences. In D. Sander and T. Brosch (Eds.), Handbook of value (pp. 63–84). Oxford, UK: Oxford University Press.

Schwartz, S. H. (1992). Universals in the content and structure of values: Theoretical advances and empirical tests in 20 countries. *Advances in Experimental Social Psychology*, *25,* 1–65.

Sheldon, K. M. (2004). *The psychology of Optimal Being: An Integrated, Multi-Level*

Perspective. Mahwah, NJ: Erlbaum.

Shipley, T. (1961). *Classics in Psychology*. New York, NY: Philosophical library.

Singer, J. A. (2004). Narrative identity and meaning-making across the adult lifespan: An introduction. *Journal of Personality, 72*, 437-460.

Sinclair, J. (1992). Bridging the gaps: An inside-out view of autism (Or, do you know what I don't know?). In E. Schopler & G. B. Mesibov (Eds.), *High-Functioning Individuals with Autism* (pp. 294–302). New York: Plenum Press.

Smith, C. (2018). Autism in heels: The untold story of a female life on the spectrum. *Booklist, 114*(21).

Spears, R. (2011). Group identities: The social identity perspective. In S. J. Schwartz (Ed.) *Handbook of Identity Theory and Research* (pp. 99-106). New York: Springer.

Stern, W. (1938). *General psychology from the personalistic standpoint*, (H.D. Spoerl, Trans.). New York: Macmillan Co.

Tajfel, H., M.G. Billig, R.P. Bundy, & C. Flament. (1971). Social categorization and intergroup behaviour. *European Journal of Social Psychology, 1*: 149–78.

Tammet, D. (2006). *Born on a Blue Day: Inside the Extraordinary Mind of an Autistic Savant.* New York, NY: Free press.

Tantam, D. (2012). *Autism Spectrum Disorder through the Life Span.* London, England: Jessica Kingsley Publishers.

The Qur'an. New York: Oxford University Press.

Tse, J., Strulovitch, J., Tagalakis, V., Meng, L., & Fombonne, E. (2007). Social skills training for adolescents with Asperger syndrome and high-functioning autism. *Journal of Autism and Developmental Disorders, 37*(10), 1960-1968.

Vincent, J., Potts, M., Fletcher, D., Hodges, S., Howells, J., Mitchell, A., Ledger, T. (2017). 'I think autism is like running on windows while everyone else is a mac': Using a participatory action research approach with students on the autistic spectrum to rearticulate autism and the lived experience of university. *Educational Action Research, 25*(2), 300-315.

Vuletic, L. (2010). *Living in Two Worlds: Intentional Personal Development of Autistic Individuals* (Doctoral dissertation).University of Toronto, Toronto, ON.

Wakabayashi, A., Baron-Cohen, S., Uchiyama, T., Yoshida, Y., Kuroda, M., & Wheelwright, S. (2007). Empathizing and systemizing in adults with and without autism spectrum condition: Cross-cultural stability. *Journal of autism and developmental disorder, 37,* 1823-1832.

Waugh, C., & Peskin, J. (2015). Improving the social skills of children with HFASD: An intervention study. *Journal of Autism and Developmental Disorders, 45*(9), 2961-80

Williams, D. (1992). *Nobody nowhere: The extraordinary autobiography of an autistic.* New York: Times Books.

Williams, D. (1994). *Somebody somewhere: Breaking free from the world of autism.* New York: Times Book.

Wing, L. (1981). Asperger's syndrome: A clinical account. *Psychological Medicine: A Journal of research in psychiatry and the allied sciences, 11*(1), 115-129.

About the Authors

Dr. Aftab Khan: Dr. Aftab Khan is currently working as an Assistant Professor of special education at Longwood University, USA. He received both his Doctoral and Master degrees in developmental psychology and education from the University of Toronto, Canada. At the University of Toronto, he was also involved on a large project investigating 'Wisdom around the World'. He is passionate about learning individuals with exceptionality, especially those diagnosed with autism spectrum. Dr. Khan has over 20 years of experience in field of Special Education including teaching students at the university level, training professionals at the school level, and training parents in the community.

Dr. Michel Ferrari: Dr. Michel Ferrari is Professor in the Department of Applied Psychology and Human Development at the Ontario Institute for Studies in Education (OISE), University of Toronto. As Director of the Wisdom and Identity Lab, he explores the meaning of personal wisdom in people at different ages (from children to the elderly) from different nations. He has edited or co-edited 12 books and is currently leading a study that explores the relationship between wisdom and acculturation in Islamic immigrants and refugees to Canada; in applied practice, he and his students are studying the experience of wisdom in emerging adults with Autism.