Pakistan Journal of Social and Clinical Psychology
2020, Vol. 18, No. 2, 10-18

Adler Birth Order Predicts Personality Characteristics in Young Adults

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Abstract

Adler was the first theoretician to speculate about birth order positions that elucidate personality and its development in many areas of counseling and professional psychology. The present study was aimed at examining birth order as a predictor of resilience, forgiveness, Locus of Control (LOC), and deceptive communication. A cross-sectional design was used surveying 200 young men and 200 women with an age range of 19-25 (M = 20.15, SD = .34) years that came from five public and private post-school educational institutions of Lahore, Pakistan. All participants completed demographic questionnaire followed by four structured questionnaires i.e., Connor Davidson Resilience Scale 10 (Campbell-Sills & Stein, 2003); Heartland Forgiveness Scale (Thompson, Snyder, & Hoffman, 2005); Multidimensional Locus of Control IPC Scale (Levenson, 1973); and Revised Lie Acceptability Scale (Oliveria & Levine, 2008). Hierarchical regression analysis revealed that first born were significantly more resilient and less forgiving than second, middle, and last born. In addition, last born were significantly less accommodating for deception communication than first, second, and middle born. However, birth order differences remained non-significant for LOC. Gender and sibling number did significantly predict preceding variables, without birth order.
Keywords: birth order, resilience, forgiveness, deceptive communication, LOC

Adler Birth Order Predicts Personality Characteristics in Young Adults Adler founder of individual psychology, emphasized birth order as a fundamental domain of family structure that determined personality and behavior (Adler, 1922), for instance, the theory proposes that first born are authoritative, traditionalist, and had leadership abilities; middle born try to compete with other siblings, while the last born are pampered and loved by family members and face difficulties in becoming independent (Adler, 1922; Smith, 2011). Adler's (1922) innovative work provided a new avenue to examine birth order as a substrate for personality traits (Kaufman, 2012) highlighting the role of gender, education, family systems, sibship size, socio-economic status etc. in personality development (Doron, 2009).

Theoretical study of personality provides a way to explain factors that affect development, maintenance and life-long trajectory of personality, for instance, Adler (1922) proposes that birth order affects personality of children in a family simply by being born first, second or third etc. However, study of personality from Adlerian perspective is also important for other practical reasons where its structure can determine behaviors needed to express and resolve, like health behaviors (Hampson, Goldberg, Vogt & Dubanoski, 2007) where perturbations, like sickness, leads to pursuing behaviors that can restore health. Certain personality types in Adlerian paradigm are more likely to restore physical and psychological health through resilient behaviors than other types, for example in a sample of 247 young adults in Turkey middle and last born predicted better psychological resilience that was measured by social interest, coping strategies of active planning, acceptance and cognitive restructuring, and seeking external help than higher order siblings (Erguner-Tekinalp & Terzi, 2016).

This is contradictory to what Sharma and Srimathi (2014) found in their study of 273 students (age range 18-43 years) in India where first born had greater autonomy, environmental mastery, personal growth, positive relations, purpose in life, and self-acceptance (well-being measures) than middle born, suggesting that resilience was greater in first born children than later born; however these investigators also found last born children had higher well-being indices but not as much as the first born. Khodarahimi and Ogletree (2011) in yet another study reported first born adults had higher general wellbeing than later born children. This is also a confirmation to data from Swedish Population Register of people born between 1932-80; follow-up continued from 1980- 2002 that documents second-born children were 17% more likely to die by suicide than first-born children; the risks for third and fourth-born children were 43% and 63%, respectively and thus, suggesting higher well-being or resilience in first and second born than later born children (Yager, 2014).

Could it be possible that Locus of Control (LOC) is externally based for lower birth orders that make them less resilient to commit suicide and higher birth orders have internal LOC making them less likely to commit suicide? There is some evidence for that in Sagone and Caroli (2014) study where they tested 56 Italian boys and 62 Italian girls and found that LOC for first and middle adolescents was more internally bound while LOC was more external for late birth order adolescents. Similarly, another study conducted in Tripura state of India by taking 400 university students, indicated that the mean scores of the first-born students were higher in internal LOC than later born (Mukharjee & Mukharjee, 2014).

Adler (1922) stated that first born are usually rigid and have least flexible personality and are less likely to forgive others if a person misbehaves with them (Sulloway, 1999). Sialwi (2018) in a sample of 300 secondary school students in Lahore found first born were less forgiving than latter born. However, Alam,

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Rafique, and Anjum (2016) did not find any effect of birth order on forgiveness of 280 university students in Lahore.

For deceptive communication or lie acceptability, a longitudinal survey was conducted that looked at 27,500 adolescents and examined their birth order. Results revealed that various antisocial behaviors like stealing, drugs use, illegal sexual activities, dishonesties and telling lies are common among younger siblings (Averette, Argys, & Rees, 2011).Watts and Pietrzak (2000) explained that such unstable behaviors often begin to appear in last born because they are pampered and develop self-centered personality while first born strictly follow rules and want parental approval and success in life so, at times, they are less inclined to accept lies. They resist accepting falsified information, to maintain their leading and achievement-oriented personality.

The role of birth order in whittling personality and commencing behavior is necessary for individual growth and interaction. In clinical settings, young adults and their parents can be counseled about their personality by highlighting birth order (Heinrichs & Doss, 2010). Further, if resilience, self-control and forgiving patterns are understood in the context of birth order this could aid clinical milieu for mentally sick individuals (Qaiser, Iqbal, Abbasi, & Feroz, 2012; Marti & Ruch, 2017; Lacey & Pickard, 2015), also, these factors have become core focus in many social behaviors (Lomas, 2015). Taken together, we hypothesize that first born will be more resilient, less forgiving, will have greater internal LOC and less tolerant of deceptive communication than later born children. We also predict gender differences where men will be more resilient, less forgiving, will have greater external LOC and will be less tolerant of deceptive communication than women.

Method

Participants Inclusion Criteria. A sample of 200 young men and 200 young women, aged between 19 and 25 years (Bleyer & Albritton, 2003) was chosen through purposive sampling, which came from two public, two semi-governments, and one private university of Lahore. Participants were students in undergraduate (BS hons) and postgraduate (MS/MPhil) humanities and social sciences courses. We took equal number (22.5% from each year) of students from third, fourth, fifth, and sixth years, and took the rest (10%) from MS/MPhil classes. In this way, a total 132 (political science), 133 (social work) and 135 (physical education) students were sampled. Further, we asked about the participants' chronological birth orders, therefore we were able to sample 100 (50 men and 50 women) first born, 100 (50 men and 50 women) second born, 100 (50 men and 50 women) middle born and 100 last born (50 men and 50 women) belonging to lower, middle and upper socioeconomic backgrounds. Moreover, participants living in nuclear and joint family systems, were selected.

Table 1

Demographic Characteristics of Participants

Variable	Level	N(%)	M(SD)
Gender			
	Men	200(50.0)	
	Women	200(50.0)	
Age Range	19-25 years	400(100.0)	20.7(1.5)
Education			
	Third year	90(22.5)	
	Forth year	90(22.5)	
	Fifth year	90(22.5)	
	Sixth year	90(22.5)	
	MS/MPhil	40(10.0)	
Institute			
	Semi-government University	70(17.5)	
	Semi-government University	70(17.5)	
	Government University	60(15.0)	
	Government University	60(15.0)	
	Private University	140(35.0)	
SES			
	Lower class	126(31.5)	
	Middle class	139(34.8)	
	Upper class	135(33.8)	
Siblings Number			
	Two	41(10.3)	
	Tree	99(10.3)	
	Four	260(65.0)	
Birth Order			
	First born	100(25.0)	
	Second born	100(25.0)	
	Middle born	100(25.0)	
	Lastborn	100(25.0)	
Family System			
	Single	205(51.3)	
	Joint	195(48.8)	

Exclusion criteria. Sample excluded twins, single children and families that had more than four siblings. Sample also did not include participants who had divorced, widowed or step parents. Moreover, employed, married, or even engaged participants were not included. Physically handicapped or psychologically disturbed adults were also excluded and no psychology students were taken because of their possible knowledge about Adler's theories and viewpoints.

Instruments

Demographic Questionnaire. Demographic questionnaire was developed to ask about participants' gender, age, educational level, birth order positions, type of institutions they were studying in, socio-economic status, sib size, and family systems.

Connor Davidson Resilience Scale 10 (CD-RISC-10). Campbell-Sills and Stein (2003) abridged and adapted Connor and Davidson (2003) original scale CD-RISC-25 ending up with 10-items for the final scale. Each item was measured on a 5-point Likert-type scale that ranged from 0 to 4 (0 = Not true at all, 1 = Rarely true, 2 = Sometimes true, 3 = Often true, 4 = True nearly all the time), where higher composite score meant higher resilience. Reliability (α = .85) of CD-RISC-10 is high and so was determinacy estimate (.94) estimated by Campbell-Sills and Stein (2003). Similarly, in South Korea, the alpha co-efficient (.95) of the CD-RISC-10 was high (Baek, Lee, Joo, Lee, & Choi, 2010). In Pakistan, Mustafa (2018) reported high reliability (α = .87) of CD-RISC-10 based on a sample of university students.

Heartland Forgiveness Scale (HFS). Thompson et al. (2005) developed HFS, which consists of 18 items with three

subscales (Forgiveness of Self, Forgiveness of Others and Forgiveness of Situations). Each item on HFS is measured on a 7-point Likert-type scale ranging from "almost always false than true" (1) to "almost always true of me" (7). Higher composite scores on each subscale reflect a higher level of forgiveness in each domain. With adequate psychometric properties (Thompson et al., 2005); the internal consistency for forgiveness of self (α = .75), for forgiveness of others (α =.78), for forgiveness of situation (α = .77) and for HFS overall .86 (Thompson et al., 2005). For this study we used *Forgiveness of Others* subscale (8-items) for which Sadiq and Mehnaz (2017) reported high reliability (α =.73). Authors of this study sought written permission from the scale developers to use the adapted scale.

Multidimensional Locus of Control IPC Scale. This instrument (Levenson, 1973) consists of 24 items measured on a 6-point Likert-type scale, ranging from −3 (Strongly Disagree) to +3 (Strongly Agree). The scale yields three distinct factors with Internality (I) subscale, which consists of 8 items (items 1, 4, 5, 9, 18, 19, 21, 23), the Powerful (P) Others subscale that also contains 8 items (items 2, 6, 7, 10, 12, 14, 16, 24) and the Chance (C) subscale consists of 8 items (items 3, 8, 11, 13, 15, 17, 20, 22). Composite score for each subscale produces a unique score by adding responses, and then adding a constant of +24 to eliminate negative sums thus, each sub-score ranges from 0 to 48, indicative of the three dimensions viz., I, P and C. A moderate reliability (α = .65) of the scale was assessed in Pakistani adult population by Nasar, Zulqarnain, Khan and Shakeel (2015).

Revised Lie Acceptability Scale. The lie acceptability scale items were selected and adapted from McCornack and Levine (1990) and Levine et al. (1992) studies. The original scale consisted of 11 Likert-type items using 7-point response format, however, factor analysis extracted the 9 items with fours items (2, 6, 7, and 9) reversed coded. Oliveria and Levine (2008) reported a high reliability (α = .83), and reported "preliminary evidence for the validity of the construct."

Design and Procedure

Cross-sectional research design was adopted in the present study, and we used ethical procedures to obtain permission from deans of educational institutions and participants before beginning the study. All participants were assured that the data would be kept confidential and anonymous and they were free to leave the study at any time they wished. Participants were approached in their classes and were given general summary of the study. The authors pointed out that they had to address inclusion criteria (see above) for the study and if they fulfilled those, they could be a part of the study if they desired.

All consenting participants who fulfilled inclusion criteria completed demographic information sheet and four scales (see section on Instruments) for the study data. Participants did not report any problem in understanding the language used in scales and whenever there were potential confusions or questions they were answered appropriately.

Total time to complete demographic information and four scales took 20-25 minutes. In the end, participants were thanked for participation. Data was further processed SPSS 22.0 to generate results.

Results

The present study was carried out to assess the birth order impact on various personality characteristics of young adults. For this, different statistical analyses i.e., descriptive, hierarchical regression, one-way Analysis of Variance, and t-test were applied. Subsequently, the application of single factor.

Analyses

ANOVA revealed a significant main effect of birth order F (3, 396) = 60.88, $p < .05$ for resilience. Post-hoc analysis indicated first born (M = 37.1, SD = 6.1) were significantly more resilient than second born (M = 25.9, SD = 8.0), middle born (M = 26.5, SD = 6.8), and last born (M = 25.4, SD = 7.4), however second, middle and last-born siblings did not differ significantly from each other. Analysis revealed a significant main effect for birth order F (3, 396) = 25.6, $p < .05$ for forgiveness measure. Post-hoc analysis revealed that first born (M = 59.0, SD = 9.0) were significantly less forgiving than second born (M = 50.0, SD = 6.0), middle born (M = 51.0, SD = 6.8), and last born (M = 48.9, SD = 9.0), however second, middle and last-born siblings did not differ significantly from each other. One-way ANOVA did not show a main effect ($p > .05$) of birth order for internal LOC, first born (M = 88.2, SD = 14.3) were similar to second born (M = 85.3, SD = 19.2), third born (M = 87.3, SD = 16.1) and fourth born (M = 85.00, SD = 18.0) participants. For external LOC, no birth order differences were also noticed among participants. First born (M = 30.1, SD = 11.4) were similar to second born (M = 29.3, SD = 17.2), third born (M = 29.0, SD = 15.1) and fourth born (M = 28.0, SD = 14.1) participants. However, data revealed a significant main effect of birth order F (3, 396) =106.30, $p < .05$ for deceptive communication. Post hoc comparison showed that last born (M = 14.0, SD = 3.4) had significantly lower deceptive communication scores than first born (M = 26.6, SD = 6.1), second born (M = 25.7, SD = 6.8), and middle born (M = 25.9, SD = 6.3), however first, second, middle born siblings did not differ significantly from each other.

Figure-1

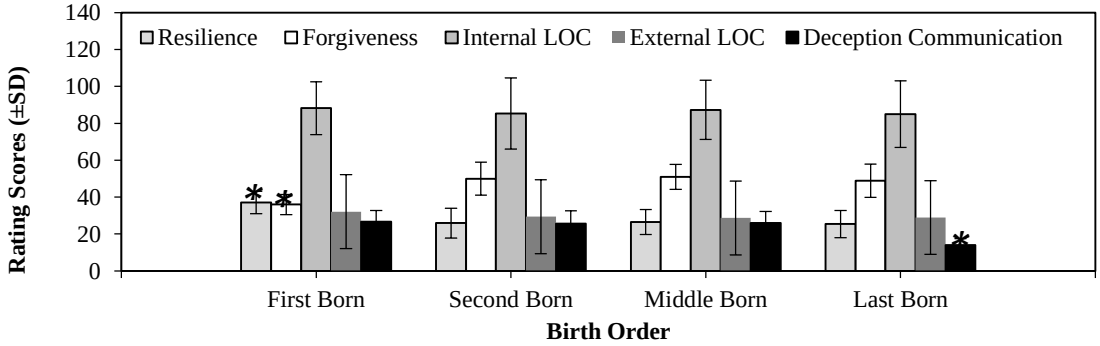

Figure 1. Birth Order, Resilience, Forgiveness, LOC and Deceptive Communication

Figure 1. Resilience in the first born was significantly ($p < .001$) higher than second, middle and last born. Forgiveness in the first

born was significantly ($p < .001$) lower than second, middle and last born. Last born significantly ($p < .001$) were less likely to accommodate others for deception communication than first, second, and middle born. For LOC (both internal and external) no significant differences were found across birth order.

To evaluate gender differences in resilience, forgiveness, external-internal LOC and deceptive communication t-test were carried out. Men were significantly ($p = .03$) more ($M = 29.8$, $SD = 8.5$) resilient than women ($M = 25.3$, $SD = 6.9$) and were significantly ($p = .02$) more ($M = 47.6$, $SD = 9.7$) forgiving than women ($M = 45.3$, $SD = 9.8$). However, women were significantly ($p = .01$) greater ($M = 56.7$, $SD = 13.2$) in their external LOC than men ($M = 50.5$, $SD = 14.2$). Men ($M = 19.7$, $SD = 6.7$) and women ($M = 19.9$, $SD = 6.5$) did not significantly differ on internal LOC or deception communication where men ($M = 23.0$, $SD = 7.9$) and women ($M = 23.1$, $SD = 7.7$) were almost identical.

Figure 2

Figure 2. Gender Differences in Resilience, Forgiveness, LOC and Deceptive Communication

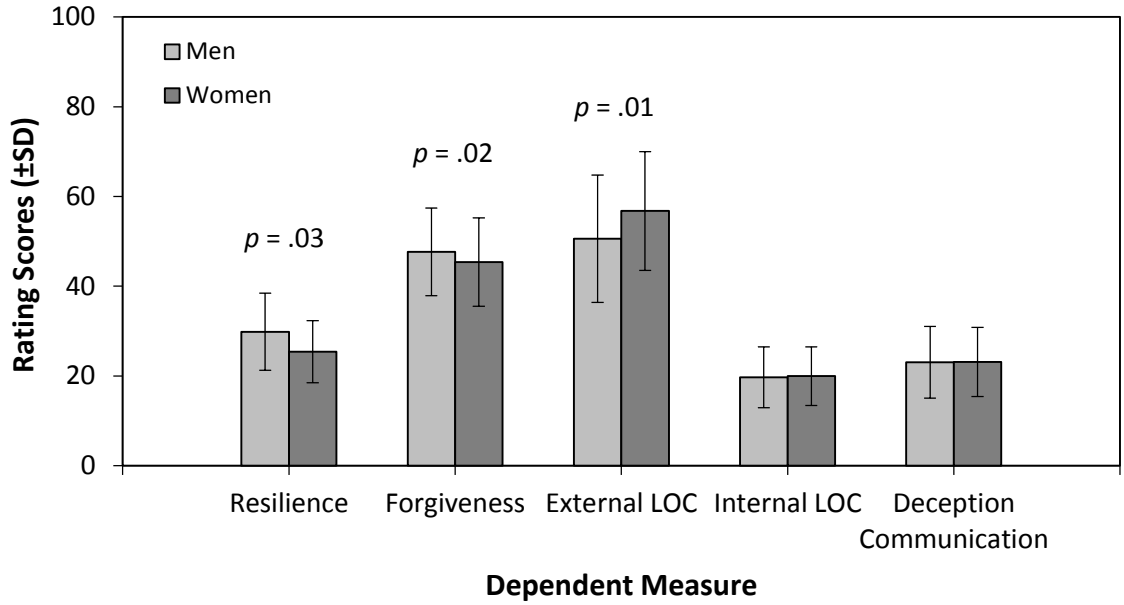

Figure 2. Resilience in the men was significantly ($p = .03$) higher than women. Forgiveness was also significantly higher in men ($p = .02$) than women. Women were more likely to believe in external LOC ($p = .01$) than men while no gender differences in internal LOC and deceptive communication were seen.

Birth order was expected to predict resilience, forgiveness, LOC, and deception communication after controlling for gender, age, education, siblings' number, low class, middle class upper class, and family system. Indeed, hierarchical regression analysis revealed a pattern of results that corroborates the results revealed by ANOVA. In order to carry out hierarchical analysis, in step 1, all demographic variables were controlled and in step 2, birth order was added after dummy coding. Middle birth order was taken as a reference variable which excluded upper class due to multicollinearity. For resilience, results of hierarchical regression analyses showed that at Step 1 the value of ΔR^2 was .14 but in step 2 after adding birth order the value of ΔR^2 increased to .31 that accounted for 45% of total variance. First born significantly ($\beta = .54$, $p < .001$) predicted greater resilience than other birth orders (second born $\beta = -.02$, $p > .05$; last born $\beta = -.04$, $p > .05$), and likewise other factors had no significant effect (see Table 2). In case of forgiveness, at step 1, the value of ΔR^2 was .19, which increased to ΔR^2.38 for step 2 and accounted for a total of 57% of variance. First born were significantly ($\beta = .63$, $p < .001$) less forgiving than other birth orders (second born $\beta = -.03$, $p > .05$; last born $\beta = -.09$, $p > .05$) and likewise other factors were not significant. For internal LOC, at step 1, the value of ΔR^2 was just .02 and remained unchanged at step 2 when birth order was included. So, birth order was not a predictor of LOC. Looking at external LOC, at step 1 and step 2, gender showed a significant association with LOC ($\beta = .18$, $p < .01$) women having higher significant external LOC compared to men. However, first born ($\beta = .10$, $p > .05$), second born ($\beta = -.01$, $p > .05$), and last born ($\beta = -.04$, $p > .05$) were non-significant predictors of external LOC. Finally, for deception communication, the value of ΔR^2 was .06 in step 1, but significantly increased to .44 in step 2, accounting for 50% of total variance. Results showed that last born were less likely to be affected by deception communication ($\beta = -.67$, $p < .001$) than other birth orders (first born $\beta = .01$, $p > .05$; second born $\beta = .02$, $p > .05$, for details.

Table 2

Summary of Hierarchical Regression Analysis predicting Resilience, Forgiveness, LOC (external and internal) and Deception Communication

	Resilience		Forgiveness		LOC Internal		LOC External		Deceptive Comm.	
Variable	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β	ΔR^2	β
Step 1	.14*		.19*		.02		.07		.06	
Gender		-.11*		-.09		.01		.18*		-.03
Age		-.01		-.00		-.05		.01		.06
Education										
Third year		.00		.07		-.06		.10		.10
Forth year		-.07		.13		.00		.03		-.09
Fifth year		-.02		.10		-.07		.02		.03
Sixth year		-.03		.08		-.06		.05		.01
MS/MPhil		-.02		.06		.05		.10		.01
Siblings Number		.44*		.43*		-.03		.03		-.26*
SES										
Low Class		.05		-.01		-.07		-.11		.06
Middle Class		.06		-.08		-.05		-.07		.03
Family System		-.00		.01		-.01		.00		.02
Step 2	.31*		.38*		.02		.08		.44*	
Gender		-.08		-.11*		.01		.18*		.00
Age		.00		-.02		-.04		.07		.07
Education										
Third year		-.05		.06		-.07		.11		.05
Forth year		-.05		.05		.00		.04		-.10
Fifth year		-.02		.06		-.05		.03		.04
Sixth year		.04		.09		-.10		.09		.00
MS/MPhil		.03		.07		-.03		.11		.03
Siblings Number		-.00		.03		.02		.03		-.03
SES										
Low Class		.09		-.01		-.07		.04		.02
Middle Class		.07		-.03		-.06		-.05		-.01
Family System		.00		.00		-.01		-.08		.01
Birth Order										
First Born		.54*		-.63*		.06		.10		.01
Second Born		-.02		-.03		-.05		-.01		-.02
Last Born		-.04		-.09		-.06		-.04		-.65*
Total R^2	.45*		.57*		.04		.15*		.50*	

Control variables = Gender, Age, Siblings Number, Low Class, Middle Class, Family System, SES: Socioeconomic Status
*p < .05, **p < .01, ***p < .001

Outcomes of hierarchical regression also revealed that demographic factors (participants' education, low class, middle class, upper class, and family systems) did not predict resilience, forgiveness, LOC, and deception communication except gender for resilience (β = .17, p < .01) and LOC (β = .18, p < .01). In addition, sibling number predicted significant resilience (β = .44, p < .001), forgiveness (β = .43, p < .001) and deception communication (β = -.26, p < .01). Positive beta values suggest that sibling number predicted more resilience and forgiving attitude when participants having fewer siblings and negative beta value suggest lower deception communication with fewer siblings. But in step 2, birth order nullified the role of sibling number but not gender as it is might be an important component of personality development that is why, the values remained significant during entire analysis.

Discussion

Results suggested first born were significantly more resilient than later born children, which is supported by previous studies (Kamble, 2015; Masood, Masud, & Mazher, 2016; Sarwer, Inamullah, Khan, & Anwar, 2010) and is aligned with other data, for example Kamran (2016) found that first born were always given more responsibilities to deal with and were supposed to be a role model for their siblings. Similarly, Lateef, Dahar, and Latif (2018) indicated that well-being in first born was better than middle and last born. Mukherjee and Mukharjee (2014) for an East Indian sample of adult students also found first born children to have higher well-being than children of lower birth order. Similarly, Sharma and Srimathi (2014) also found that South Indian students who were first born had higher well-being than lower birth orders, except last born that had higher well-being scores than first born. In Pakistani society, parental preference is given to males which leads females to experience gender disadvantages, including lesser access to resources, inferior health care, limited education, fewer chances of employment, and restricted autonomy, which is why Qadir, Khan, Mehdin, and Prince (2011) point out that women in Pakistan suffer from remarkably high psychological morbidity leading to lower resilience than men. Adler (1922) had proclaimed that older siblings are more determined, responsible,

and have greater self-efficacy such that these traits are likely to make them more resilient than other siblings.

Results also showed that first-born were less forgiving than second, middle, and last born. Adler suggested first born are less forgiving than later born and categorized second-middle born as more sociable, polite and kind to others. Schumann (2016) also argued that middle born was usually more fair-minded and forgiving than first born, and explained that middle children tend to have high degree of patience because they get partial parental attention compared to first and last born, this lead them to learn the art of delayed gratification and makes them civilized and forgiving (Ardebili & Golshani, 2016; Blair, 2011; Sultana & Latif, 2010). However overall forgiveness was greater in men than women in our sample, and though women are generally more forgiving than men (Exline & Baumiester, 2005; Goss, 2006; Hoffman, 2007; Javed, Kauser, & Khan, 2010; Lavoie, 2007; MacLachlan, 2008) we believe it merely characteristics of this sample that has resulted in this result. Determining gender differences for psychological factors like forgiveness are difficult interpret one reason is that gender is a subject variable and any differences cannot be causally attributed. The other reason can be the randomness in getting one kind of sample at one time point and another at a different time for example Bajwa and Khalid (2014) found no gender differences in forgiveness.

Hierarchical regression analysis did not support birth order as a predictor of LOC (internal and external) and ANOVA revealed no significant differences in LOC across birth orders. Our results contradict with the studies conducted in USA and India that signify the association of birth order with LOC (Mukhar jee & Mukhar jee, 2014; Williams, 2011). The possible explanations for the current non-significant findings might be embedded in cultural and religious beliefs. Being *Muslims*, we believe in both self-capabilities (personal efforts and hard work) and *Taqdeer* (fate, luck; sixth pillar of Islam), such views are so entrenched that have a long-lasting impact on one's personality where the importance of other factors (birth order) is minimized (Ather, Khan, & Houqe, 2011; Khir et al., 2016) but we left up this debate for the other researchers to re-evaluate this concept. However, women had higher external LOC than men, which is supported by a few Pakistani studies (Rehman & Awan, 2017; Zaidi & Mohisn, 2013). Women are dependent on their nuclear families and when they get married, on their husbands and in-laws. This external LOC could be accentuated by feminine qualities centered on affective and emotional traits (Fair, Malhotra, & Shapiro, 2012). In our data, internal LOC did not differ between men and women and scores were 37% of scores on external LOC, which suggests men and women rely less on themselves to take personal decisions and more on their parents and other influential people in their lives (Kundi et al., 2014).

Analysis indicated that last born predicted deception communication compared to other birth orders and were significantly less accommodating to deception than higher order children. The analysis also showed there were no differences in men and women on this accommodation towards deception. Quraishi and Aziz (2017) also found the same and reported no gender differences in deception communication among undergraduates in Lahore. However, Salmon, Cuthbertson, and Figueredo (2016) in US found that last born adults were more pro-social and altruistic than middle and first born and in Korea, Schenkel, Yoo, and Jaemin (2016) noted that decedent (lower) birth orders were better in maintaining relationships than ascendant (higher) birth orders, such personality types are more likely to believe others, so, they less likely to use deceptive communication in their relations These findings are not aligned with Adler (1922/2014) ideas as first born are more rules oriented and rigid in their beliefs so, they tend to accept less lies in everyday lives. However, our findings and other latest researches are providing novel visions regarding birth order.

Results of multiple hierarchical regression analysis also revealed that factors like, education, socioeconomic status, sibling number and family system were not significant predictors of resilience, forgiveness, LOC (both external and internal) and deceptive communication, except gender that was significant for resilience, forgiveness, and external LOC.

Conclusion

Implications

The current study supported Adler's birth order in some ways, for instance, various personality traits like resilience, forgiveness, and deceptive communication were influenced by birth order. Adler had argued that first born were more resilient than other siblings and were less likely to forgive others when they made mistakes, our data supported those notions. However, our data did not find that first born were less accommodating to deceptive communication than middle or last born; we say this in light of first born less forgiving than later born siblings. If first born are less forgiving then they should be less accommodating to deception than last born. The data did not support that and found it was the last born who were less accommodating than first born when they were deceived. This cannot be easily reconciled the only thing we can offer for this contradiction to Adler's position is that this is something our particular data found; more data needs to be collected to verify this finding. We also did not find any difference in LOC (external and internal) for any birth order position. We expected first born to have higher internal LOC and last born to have more external LOC, however no differences were found across birth orders for either external or internal LOC. And much to our surprise we found women had higher external LOC then men, which was contradictory to our original hypothesis. Disconfirmation of these hypotheses is interesting and needs further inquiry before coming to a firm conclusion.

Adler's theory of personality offers a quick way of assessing personality; by simply knowing birth order a host of personality factors can be identified, like being compliant, organized, creative, resilient, tolerant, and generous etc. This could provide clinicians, counselors and other professionals in the behavioral and social fields a tool to ascertain personality and help those in need. It can also educate parents what to expect when engaging with their children and to know how it could be useful in gauging their development as the years ensue.

Limitations

One drawback of the current study is that siblings of the same family were not taken to reveal birth order differences because the majority of respondents were having either aged siblings (35-45 years) or had younger siblings (4-10 years). In this situation, collected information could be ambiguous and weird, thus, leading to inappropriate results. Another limitation was, single and twin children were not taken due to the less availability of such sample. Moreover, though, sample size was adequate for the present study but generalizations cannot be made for other cities of Pakistan as *Sindhi*, *Balochi*, and *Pashtun*, have their unique festivals, architecture, languages, lifestyle, and social issues (Khalid, 2019).

We concluded that current research supports Adler's contributions to the field of personality psychology by introducing the impact of birth order in shaping the personality of young adults in Pakistan; and invites researchers to empirically review different personality theories in the context of Adler's proposal in ways that would examine new emerging trends in the field of personality.

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Received: Aug 29, 2019,
Revisions Received: Oct 14, 2020