THE IMPACT OF BIRTH ORDER ON ISRAELI CHILDREN'S PERSONALITY TRAITS

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Abstract

The study examined the magnitude and nature of relationship between personality trait and birth order. The overall purpose was to examine this impact of birth order on children's personality traits between the Arab sector and Jewish sector in Israel and establish if personality trait effects on psychological distress can be addressed through an intervention program. A total of 196 Israeli children from both Arab and Jewish sector participated in this study. The study tools used in this study gathered relevant information included Structured schedule on Personal information, psychological distress schedule and Personality trait schedule. Exploratory factor analysis (EFA) and Confirmatory Factor Analysis (CFA) were conducted to determine the factor structure for the items used to measure personality traits, ensure validity in the study and covariance. In summary, the sector in which an individual belongs therefore affects relationship between birth order and personality. This can be explained by the fact that each sector, both Jewish sector and Arab sector, is considered as highly social which can be the contributing effect on birth order and personality relationships.

Key words: *birth order, personality traits, Israeli children, Neuroticism , Extraversion*

Background:

Globally, an overwhelming proportion of people have siblings, which plays a significant part in development of their personality. In most cases, children spend more time with family members who include the parents and the siblings. Consequently, a very important factor in a child's psychological development is a child's birth order such as firstborn, only child, middle child, and youngest child. It was mentioned in the reviewed literature that birth order was the most important attribute in family environment which impacts significantly on the behaviors of a child. The study was conducted to extend and replicate the past findings on birth order effects on personality development among children in the context of Israeli society.

Birth order

Birth order is universally perceived to determine how people behave and the most pervasive human experience (Milevsky, 2011). Debates over its association with intelligence and personality has spawned increased focus in the past ten decades both from scientists and general public. Each position in birth order has unique and distinct personality traits . Birth order refers to the rank of a person by age when compared to the siblings (Ha & Tam, 2013). That is, birth order is chronologically determined in a given family based on the order in which a person was born. Classification of birth order includes single child, firstborn, middle child, and youngest child.

Single children

According to Sun et al. (2014), single children tend to receive more attention from parents and hence strive for more attention from other adults compared to their peers. Single children also have peer relationship problems in that they carry entitlement feelings which make it difficult to relate well with peers. It was argued by Dunkel & Decker (2010) that typical characteristic associated with single children is

being extremely careful which related to the extreme attention they get from parents as they grow up. Other qualities often seen in single children include thoughtfulness, responsibility, independence and sociableness.

Firstborns

Sulloway (2011) argued that firstborns tend to maintain status quo hence they are more rule-bound and conscientious. Firstborns were reported by Bleske-Rechek & Kelley (2013) as more conservative and are considered as leaders that submit to higher authority and follow rules. Firstborns are ambitious and more conforming compared to their siblings. In addition, firstborns are more motivated than younger siblings to be achievers. They tend to please adults or parents and their behavior is more appropriate socially. Since the firstborns comply with rules, they typically expect younger siblings to obey them. Being a firstborn means being dethroned by the second sibling hence, firstborns must adjust to arrival of the next sibling by working harder to standout among siblings and maintain their space (Buss & Hawley, 2011).

According to Gilmore (2016), firstborns are believed to be more organized, conservative, competitive, high achieving and responsible. Since thy are the first child, they are brought up alone for a certain period with all the attention from both parents. With the second born, such excess attention from parents is partly divided and sometimes taken away which makes firstborns to have a feeling of 'dethronement' which drives then to crave for attention. Moreover, firstborns are expected to be highly extraversion and have more respect for the family authority. This can be attributed to their crave for power, desire to set the best example to other siblings and perceived importance of pleasing parents.

Ha & Tam (2011) opined that firstborns are known to be perfectionists, high achievers and responsible compared to youngest children and single children who are

described as spoiled kids and the baby in the house. Parents are generally excited about firstborns, remain protective, and have more expectations, investment and attention on them. Firstborns are considered as conforming, ambitious, leaders and high achievers hence they tend to please parents using traditional approaches such as having responsible behaviours and high academic performance.

Middle children

In the opinion of Bleske-Rechek & Kelley (2014), middle children are generally believed to be rebellious hence they tend to challenge authority. Middle children are also believed to be 'misplaced' since they have difficulty finding their bearing and significant place within the family. Since these children are in a middle position in the family, they are peacemakers in most cases and are negotiation experts. Middle children also become competitive over time as they catch up with firstborns and older brothers or sisters while attempting to set examples to younger siblings.

According to Rodica & Brent (2015), middle children have a greater likelihood of getting discouraged and they must devise a way of meeting up the firstborn's accomplishments or use other means of getting relevant place in the family. For instance, if firstborns are considered significant because of being pleasing or good academic achievement, the middle children can compete with them through developing social relationships. This implies that middle children are in a race in the family with the aim of overtaking the firstborn.

In the opinion of Gilmore (2016), middle children are 'lost children' based on the fact that they are not the family baby who are favored and are not the highest achievers which makes them appear as non-family members or irrelevant. In addition, middle children can be more sociable since they must rely on peers and friends rather than the family to get attention. Middle children experience increased difficulty in

positioning themselves in a significant and privilege place within a family since they missed the opportunity of monopolizing the attention of parents (Hertler, 2017). In this regards, middle children fight constantly to be ahead of younger children and perhaps uphold or surpass older siblings.

Youngest children

Youngest children tend to be irresponsible, immature, more pampered and dependent. In addition, it was attested by Shanahan et al. (2014) that they are more sociable in most cases and get the highest attention from both parents. Youngest children use the attention received in their favour and often manipulate and charm people to serve them or do things they want.

Youngest children tend to be more open (unconventional) and agreeable since they are inclined unconsciously to obtain the investment from others by differentiating themselves. In addition, youngest children are viewed as rebellious (Bleske-Rechek & Kelley, 2013). Youngest children behave differently and as seen to be spoiled or the baby in a family. They know the high status taken by the family firstborn hence they often seek other strategies to outperform their older siblings (Hertler, 2017).

Birth order effect theories

Dethronement theory

Adler (cited in Gilmore, 2016) proposed the dethronement theory, which argues that firstborns, before their younger children are born, receive the complete attention from their parents, but the newborn younger siblings dethrone them later. The outcomes of dethronement forces the firstborns to strive to regain the past parental attention which make them to acquire unique characteristics like conservative and conscientiousness. In addition, firstborns are likely to be more competent and independent because of the dethronement (Sulloway & Zweigenhaft, 2010).

Adler is considered by Gilmore (2016) as the first scholar to link birth order to personal behavior by arguing that people's personality are greatly shaped by their birth order. According to Gilmore (2016), Adler believed that personality differences across birth order are mainly attributed to the siblings attempting to compete with each other for parental attention by claiming a given role or niches within a family. Hence, people evaluate themselves all the time by comparing themselves with family members. In a given family, the siblings continuously compare themselves to find out which role can be played by which particular sibling. Consequently, it was highlighted by Leutner et al. (2014) that when there is an extremely intelligent firstborn, then younger siblings accept that they cannot match such intelligence and find a different role like being most creative or sociable child to earn attention from parents. This implies that the effects of birth order depend on whether the children were born as firstborn, middle child or the youngest child.

Family-niches theory

Family-niches theory is another model for explaining birth order-personality relationships. Sulloway (2011) emphasizes that supports effect of birth order on individual's personality by considering birth order as the proxy for status, physical exercise and age. In essence, the theory recognizes that personality variation among siblings originates from the competition they develop for parental resources like time, attention and parental instructions to be divided among children. It is understood in the theory that sibling rivalry is a major cause of development of personality in children hence niche splitting or niche differentiation can be used to connect sibling rivalry and personality variation. Sulloway (2011) argues that personality adaptively vary to achieve maximum extraction of parents' resources.

The firstborn is a single child for some time and hence tend to take the straightforward way to extract resources by 'seeking parental favours' (Abu-Hussain, 2015). Hence, firstborns are respectful of parental authority, become parent-identified and conscientious. The siblings born afterwards realize that this niche was exploited already by firstborn and hence do not strive to occupy such niche, in this regards, they seek out family niches that are not occupied and generally become risk tolerant, more unconventional and exploratory.

Younger siblings find other alternative personality ways of exploiting other niche maximally. Hence, competition among siblings promotes differentiation to prevent direct confrontations and conflicts. According to Komarraju et al. (2011), the niche differentiation process expressed through personality variation passively develops through variances in birth order constraints, dominance hierarchies between siblings and parental investment. In addition, it can actively emerge through niche identification and picking processes, which are autonomous attempts to change and diverge.

Birth order and Big Five traits of personality

Birth Order and Neuroticism

Mixed outcomes were reported by past studies indicating that firstborns tend to be more depression prone, vulnerable and anxious. According to Asatsa et al. (2017), firstborns are slightly rated on neuroticism compared to the later born siblings. On the other hand, later born siblings are known to be more self-conscious. Hence, later born siblings have lower scores on the facet of anxiety but have higher scores on their self-consciousness thus neuroticism and birth order relationship is inconclusive.

Birth Order and Extraversion

Sulloway (2011) found that later born siblings are more excitement seeking and outgoing, thus, extraverted while firstborns are described as more assertive. In later born siblings, dominance is low while sociability is high which leads to a moderate extraversion. The various facets for extraversion can also be challenging to generalize the effects of birth order on extraversion trait.

Asatsa et al. (2017) found that later born siblings correlate higher with extraversion while firstborns have low extraversion ratings. The later born siblings are excitement seeking and sociable, they are hence considered to be more extraverted by other people.

Birth Order and Openness

Later born siblings tend to posses high openness compared to firstborns given that openness traits is associated with being adventurers, unconventional and rebellious, all which tend to common among later born siblings (Sulloway, 2011). In addition, firstborns have lower rating on openness in comparison to younger siblings because this trait is used by the younger later born siblings to assist them in creating other ways of competing with firstborns for parental attention and investment (Sulloway, 2011). In a study by Shao et al. (2013), life satisfaction and personality traits were examined and findings report that later born siblings and single children have more scores in openness trait compared to firstborns. Hertler (2017) found that birth order significantly impacts on openness trait. However, they noted that findings could have been influenced by study location since it was in China where one-child policy was practiced and that future research in China can minimize this influenced by including data from samples both before one child rule and after the one child rule. In

the opinion of Gilmore (2016), later born siblings are the most open as they seek to find what can defined them differently from firstborns.

Birth Order and Agreeableness

In the study by Heng et al. (2017), it was reported that birth order significantly affects personality trait of agreeableness. In particular their findings showed that firstborns had lower agreeableness compared to middle children. Similarly, agreeableness was found to be lower in youngest children compared to middle children.

Firstborns tend to be favoured in all families and hence they grow responsibly (Asatsa et al., 2017). On the other hand, later born siblings receive less attention and have higher inferiority which turns out to be the motivating factor as they develop and compete for a significant place in a family. Consequently, later born siblings have high rating on aggressiveness than firstborns because their inferiority inclines them towards being more aggressive.

According to Sulloway (2011), firstborns tend to rate lower in agreeableness trait while later born siblings have higher agreeableness. The reason for this was that the younger later born siblings are dominated by the firstborns which reduce the parental investment diversion. Younger later born siblings, in contrast, avoid confronting the firstborns to obtain parental investment, hence they are forced to become acquire more agreeableness trait (Ha & Tam, 2013).

Similarly, Gilmore (2016) opined that later born siblings compared to firstborns, are more agreeable simply because they aim at avoiding conflicts with older firstborns that can be threatening. Although it seems contradictory to this indication, younger later born siblings appear to be rebellious as they seek a given family niche that is yet to be utilized by older firstborns.

According to Sulloway (2011), later born siblings are rated as the most agreeable siblings than firstborns given that they are also weak physically as they grow up which implies that they must avoid being considered as a threat by existing family members. Hence, later borns will often solicit the attention of parents and lower confrontation incidences with firstborns by agreeing and being warm, selfless and flexible. In doing so, the later born siblings contribute towards decreased competition level within the family (Asatsa et al., 2017).

Many studies have confirmed that later born siblings use low power mechanisms to get what they unlike firstborns who present themselves in the family with dominance and bigger physical size over younger later borns (Eckstein et al., 2010). For example, younger siblings employ strategies like bargaining and pleading, and if they fail then they seek assistance and protection from the parents against firstborns. Hence, birth order is associated with the trait of agreeableness.

Birth Order and Conscientiousness

Conscientiousness is mostly associated with firstborns compared to middle children and youngest children; this is mainly because the oldest or firstborn siblings aim at pleasing parents rather than taking risks. In the opinion of Lavy et al. (2012) the firstborn children are known to desire approval from parents and hence develop behaviours aimed at reflecting the values of their parents. It is also believed that older siblings behave like surrogate parents when dealing with younger later born hence they develop more conscientiousness.

A number of studies have also accepted the notion that firstborns are conscientious and more achieving in comparison to later born younger siblings who present as more liberal and rebellious (Adler, 2011). It was attested by Mahajna et al. (2007) that firstborns tend to be conscientious compared to younger siblings mainly

because the firstborn children often echo the parents' personality characteristics, attitudes and beliefs. Later born siblings on the other hand, are considered to develop personal characteristics, attitudes and beliefs which are different from those of parents and firstborns which implies that later born siblings are rebels (Sulloway, 2011). It was also reported by Asatsa et al. (2017) that firstborns have higher consciousness ratings compared to later born siblings.

Empirical evidence on birth order effects on children's personality

Development in children occurs because of gene and environment interactions. Genes shape development, and in turn, they arise from environment (Sun et al., 2014). Child development can hence be viewed as the outcome of interaction between environment and children. Past studies on personality and birth order have used various methods and approaches such as small sample size, between family study designs and not controlling for confounding factors like parental socioeconomic status, family structure and gender. It was mentioned by Rodica & Brent (2015) that effects of birth order on people's personality characteristics can be overestimated grossly because of between family approaches without having control over various confounding factors that mediate birth order and personality relationship.

Sulloway (2010) developed the idea that personality may be influenced by birth order since birth order impacts can be attributed to evolution, whereby children in a given family compete fiercely for family resources and attempt to find unique family niches. According to the findings, the highest correlations were found to be for openness ($r = .40$), conscientiousness ($r = .35$), extraversion ($r = .10$), neuroticism ($r = .20$) and agreeableness ($r = .30$). It was also proposed by the study that investigations involving within family approaches tend to produce larger impacts of birth order on individual personality compared to studies using between family approaches (McHale

et al., 2012). This can be related to the fact that the studies using the between family approaches do not properly account or control for confounding variables given that between family approaches cannot completely reflect dynamics within family (Bleske-Rechek & Kelley, 2014).

Rodica & Brent (2015) observed that in a follow-up study involving the within family approach with 6053 samples, it was reported that correlations between birth order and openness was .08, agreeableness (r = .10), Conscientiousness (r = .18), Extraversion (r = .14) and Neuroticism (r = .04). It was also noted by Sulloway (2010) that in studies using between family approaches, partial correlations reported between personality and birth order tend to be one third of effects sizes reported in studies involving within family approaches. Research on personality and birth order has continued to produce conflicting reports where support is found on predictions whereas other report no evidence.

Studies on personality and birth order relationships have revealed inconsistent findings (Ha & Tam, 2013). Some of the studies have found that personality and birth order relationships are positive and significant while other have reported that siblings have no significant differences in personality traits.

The relationship between birth order and personality has been a prominent topic that has been debated over the recent years among academicians and scholars. A number of studies conducted on personality variations between siblings report that the positions of birth order have certain common personality traits (Hertler, 2017). Sulloway's theory has received a weak support from empirical record. Some studies certainly find positive evidence that uphold the claims by the Sulloway's model (Eckstein & Kaufman, 2012). Effects of birth order on agreeableness and conscientiousness have been found to be significant.

Extraversion is also a personality trait that has been found to relate to birth order. Significant differences were found between second born child and firstborn siblings in terms of personality traits. Ha & Tam (2013) indicated that firstborns significantly scored lower and higher in openness and conscientiousness respectively compared to second born siblings. Hence family niche theory and dethronement model were supported. Firstborns were also found to receive higher rating on being conscientious and achieving compared to later born siblings (Wolmer et al., 2013). They also reported that negative correlation was found between agreeableness and firstborns. Ha & Tam (2013) wrote that peers rate siblings who are younger to be high in openness and agreeableness.

On the other hand, there are studies that report no relationship to exist between the personality traits and birth order. For example, some recent study by Damian & Roberts (2015) show that birth order relation to development of personality traits is not substantive and the evidence is very little. Rohrer et al. (2015) used the dataset from different nationalities and found no evidence for birth order impacts on agreeableness, conscientiousness and extraversion. In conclusion, Rohrer et al. (2015) stated that their findings had contradicted the prominent scientific models and lay beliefs alike and proved that family, as reported previously, less influences personality development.

When measures of openness, extraversion and neuroticism were administered to a large sample of participants to self-report on the dimensions of personality, birth order was unrelated to these traits. No relationship have also been found on personality-birth order between last born, middle born and firstborn siblings (Ha & Tam, 2013). Between family studies such as those by Marini & Kurtz (2011) comparing subsequent children and firstborns have not successfully documented the impacts of birth order as Sulloway's model predicted.

The personality of individuals is not influenced by their experiences related to dethronement and the family niches they create. This finding does not support other past studies such as Gilmore (2016) that reported otherwise which can be attributed to differences in methodologies. For instance, methodological differences could be in terms of data collection and sample size. Moreover, some studies had respondents nominating which sibling was most conscientious and achieving in their households rather than examining the personality traits in the studies (Ha & Tam, 2011). Besides methodological approaches, insignificant findings can be attributed also to the comparisons between families.

In summary, empirical studies over the past decades that have attempted to estimate birth order influence on personality characteristics have dramatically shifted, even tenfold, with studies predicting effects ranging from significant effects of 40 correlations to null impacts (Marini & Kurtz, 2011). Inconsistent findings on effects of birth order on individual personality behaviours was noted with some studies reporting no relationship in contrast to those reporting positive effects. This makes it challenging to make the final conclusion from literature review on the personality trait and birth order relationship. Inconsistent findings in studies can be attributed partly to limitations in research designs since there is other confounding factors that impact the relationship between personality and birth order, for instance, not controlling for the socioeconomic status.

Other factors affecting personality

The notion that siblings from one family have different personality characteristics is intriguing especially when these siblings grow up in same family environment and share genetic materials from their parents. Besides personality characteristics, Ha & Tam (2011) was of the view that siblings also differ with respect

to their familial sentiments, behavior and intelligence. Many variables such as parent's socioeconomic status, age, parent's education, gender and family size, are believed to play some role in the differences in sibling personality reported in terms of birth order (Gilmore, 2016).

Past theory and research indicate that there are important possible confounding factors in studies on birth order including socioeconomic status, gender, age and family structure (Rodica & Brent, 2015). Such confounding factors should be accounted for properly given that they can alter results and cause biased estimates in the linkage between personality traits and birth order.

Arab/Jewish sector and Ethical group

The eminence and high achievement level among Jewish sector in Israel has been debated over the years with indications that such success is linked to high intelligence level among Jew. According to Lynn (2011), the mean IQ estimates among Ashkenazi Jews is about 1.5 to 1 Std. Dev. higher than mean IQ among non-Jewish populations. In line with the notion that high intelligence level among Jewish sector are substantive, Dunkel (2014)'s recent study reported that white differences between Jewish sector and non-Jewish sector is pronounced more on the cognitive tests which are highly loading on the factors. Nonetheless, these studies on success of Jewish sector has mainly focused on intellectual achievement realms based on metrics such as gauging accomplishment on proportion of Nobel prizes that have been won by the Jews yet personality trait is the main reason for such group differences (Loehlin & Martin, 2013).

Ethical identity can serve as a factor in personality development in that it strengthens individual identity, ethical pride, commitment to a given culture and practices. Wolmer et al. (2013) argued that such mechanism can determine how sibling

compete with each other in a family or even their peers since their associated support and social networks are augmented, enabling a sense of belonging in the family. In addition, serving in the Israeli defense forces depends on sector since the army is overwhelmingly composed of Israeli Jewish sector with very few non-Jewish soldiers. In particular, the Druze face mandatory conscription to serve in the army and are forced into certain army units as a form of segregating the Druze and also denying them any access to other army units like sayeret units (elite units). This sought of practice may affect their personality (Zeedan, 2019).

Analysis Of Variance (ANOVA) tests for personality traits of Neuroticism and Extraversion among the Israeli children.

Analysis Of Variance (ANOVA) test was also conducted to provide insight into which Birth Order means were significantly different from each other with regards to personality traits of Neuroticism and Extraversion among the Israeli children. The ANOVA test was achieved through Tukey's post hoc comparison which was able to show where mean differences lie between the Birth Orders. In terms of Neuroticism, results for ANOVA test in Table 1 shows that the F statistic was significant at .05 which confirms the previous SEM results, hence, the Birth Order means were different for Neuroticism, $F(3, 192) = 2.722$, $p = .046$.

Table 1: ANOVA for Neuroticism and Birth Order

ANOVA					
NEUR					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	157.969	3	52.656	2.722	.046
Within Groups	3714.781	192	19.348		
Total	3872.750	195			

The multiple comparisons between Neuroticism and Birth Order is shown in Table 1 which displays all the possible birth order comparisons. Comparing firstborn vs. middle child shows that mean difference = .73709, p = .696, not significant. Therefore, it seems that no difference between them. Comparing firstborn vs. youngest child shows that mean difference = .47042, p = .989, not significant. Therefore, it seems that no difference between them. Comparing firstborn vs. single child shows that mean difference = -3.32958, p = .116, not significant. Therefore, it seems that no difference between them. Comparing middle child vs. youngest child shows that mean difference = -.26667, p = .998, not significant. Therefore, it seems that no difference between them. Comparing middle child vs. single child shows that mean difference = -4.06667, p = .029. So, single children have a significantly higher Neuroticism level than middle children.

Table 2: Multiple Comparisons between Neuroticism and Birth Order

Multiple Comparisons						
Dependent Variable: NEUR						
Tukey HSD						
(I) Birth_order	(J) Birth_order	Mean Difference (I-J)	Std. Error	Sig.	95 Confidence Interval	
					Lower Bound	Upper Bound
Youngest child	Middle child	.26667	1.45569	.998	-3.5060	4.0394
	First born	-.47042	1.48569	.989	-4.3209	3.3800
	Single child	-3.80000	1.96712	.218	-8.8981	1.2981
Middle child	Youngest child	-.26667	1.45569	.998	-4.0394	3.5060
	First born	-.73709	.67585	.696	-2.4887	1.0145
	Single child	**-4.06667***	**1.45569**	**.029**	**-7.8394**	**-.2940**
First born	Youngest child	.47042	1.48569	.989	-3.3800	4.3209
	Middle child	.73709	.67585	.696	-1.0145	2.4887
	Single child	-3.32958	1.48569	.116	-7.1800	.5209
Single child	Youngest child	3.80000	1.96712	.218	-1.2981	8.8981
	Middle child	**4.06667***	**1.45569**	**.029**	**.2940**	**7.8394**
	First born	3.32958	1.48569	.116	-.5209	7.1800
*. The mean difference is significant at the 0.05 level.						

Results for ANOVA test in Table 2 shows that the F statistic was significant at .001 which confirms the previous SEM results hence the Birth Order group means were different for Extraversion , $F(3, 192) = 6.106$, $p = .001$.

Table 3: ANOVA for Extraversion and Birth Order

ANOVA					
EXTR					
	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	361.846	3	120.615	6.106	**.001**
Within Groups	3792.399	192	19.752		
Total	4154.245	195			

The multiple comparisons between Extraversion and Birth Order is shown in Table 3 which displays all the possible birth order comparisons. Comparing firstborn vs. middle child shows that mean difference = .68287, p = .002. So, firstborn children have a significantly higher Extraversion level than middle children. Comparing firstborn vs. youngest child shows that mean difference = 3.75352, p = .063, not significant. Therefore, it seems that no difference between them. Comparing firstborn vs. single child shows that mean difference = -.64648, p = .973, not significant. Therefore, it seems that no difference between them. Comparing middle child vs. youngest child shows that mean difference = 1.25238, p = .830, not significant. Therefore, it seems that no difference between them. Comparing middle child vs. single child shows that mean difference = -3.14762, p = .144, not significant. Therefore, it seems that no difference between them.

Table 4: Multiple Comparisons between Extraversion and Birth Order

Multiple Comparisons						
Dependent Variable: EXTR						
Tukey HSD						
(I) Birth_order	(J) Birth_order	Mean Difference (I-J)	Std. Error	Sig.	95 Confidence Interval	
					Lower Bound	Upper Bound
Youngest child	Middle child	-1.25238	1.47082	.830	-5.0643	2.5595
	First born	-3.75352	1.50113	.063	-7.6440	.1369
	Single child	-4.40000	1.98757	.123	-9.5511	.7511
Middle child	Youngest child	1.25238	1.47082	.830	-2.5595	5.0643
	First born	**-2.50114***	**.68287**	**.002**	**-4.2709**	**-.7314**
	Single child	-3.14762	1.47082	.144	-6.9595	.6643
First born	Youngest child	3.75352	1.50113	.063	-.1369	7.6440
	Middle child	**2.50114***	**.68287**	**.002**	**.7314**	**4.2709**
	Single child	-.64648	1.50113	.973	-4.5369	3.2440
Single child	Youngest child	4.40000	1.98757	.123	-.7511	9.5511
	Middle child	3.14762	1.47082	.144	-.6643	6.9595
	First born	.64648	1.50113	.973	-3.2440	4.5369
*. The mean difference is significant at the 0.05 level.						

Direct effect of Birth order on Personality traits with mediator variables

The direct effect of Birth order on the personality traits among the Israeli children with the mediator variables (Arab/Jewish sector, ethical group, gender of parent, education level of parent, family income, occupation of parent and familiar background) while controlling for gender of child, age of child and grade level of child was estimated was estimated to address hypothesis 2 to hypothesis 6. The results are presented in the sub-sections as follows.

In summary, the results show that two paths between Birth order and Personality Traits in the direct effect model with Arab/Jewish sector as the mediator variable were statistically significant. In this regards, the null hypothesis 2 that Arab/Jewish sector does not mediate the effect of Birth order on Israeli children's personality was rejected since the p-values were less than 0.05 threshold level.

Moreover, comparing the effect of Birth order on Neuroticism among the Israeli children without mediator ($\beta = .152$; $p = .031$) and with Arab/Jewish sector as the mediator variable ($\beta = .158$; $p = .025$), reveals that the value of beta (or strength of effect) slightly increased. This implies that there was evidence of mediation. In addition, comparing the effect of Birth order on Extraversion among the Israeli children without mediator ($\beta = .275$; $p < 0.001$) and with Arab/Jewish sector as the mediator variable ($\beta = .277$; $p < 0.001$), reveals that the value of beta (or strength of effect) slightly increased. This implies that there was evidence of mediation. Hence, it was concluded that Arab/Jewish sector mediates the effect of Birth order on Israeli children's Personality traits of Neuroticism and Extraversion.

In summary, the results show that two paths between Birth order and Personality Traits in the direct effect model with Ethical group as the mediator variable were statistically significant. In this regards, the null hypothesis 3 that Ethical groups

does not mediate the effect of birth order on Israeli children's personality was rejected since the p-values were less than 0.05 threshold level. Moreover, comparing the effect of Birth Order on Neuroticism among the Israeli children without mediator ($\beta = .152$; $p = .031$) and with Ethical group as the mediator variable ($\beta = .154$; $p = .029$), reveals that the value of beta (strength of effect) slightly increased. This implies that there was evidence of mediation. In addition, comparing the effect of Birth Order on Extraversion among the Israeli children without mediator ($\beta = .275$; $p < 0.001$) and with Ethical group as the mediator variable ($\beta = .275$; $p < 0.001$), reveals that the value of beta (or strength of effect) remained constant. This implies that there was no evidence of mediation. Hence, it was concluded that Ethical group mediates the effect of Birth order on Israeli children's Personality traits of Neuroticism.

In summary, the results show that two paths between Birth order and Personality Traits in the direct effect model with Gender of parents as the mediator variable were statistically significant. In this regards, the null hypothesis 4 that Gender of parents does not mediate the effect of Birth order on Israeli children's personality was rejected since the p-values were less than 0.05 threshold level. Moreover, comparing the effect of Birth Order on Neuroticism among the Israeli children without mediator ($\beta = .152$; $p = .031$) and with Gender of parents as the mediator variable ($\beta = .159$; $p = .023$), reveals that the value of beta (strength of effect) slightly increased. This implies that there was evidence of mediation. In addition, comparing the effect of Birth Order on Extraversion among the Israeli children without mediator ($\beta = .275$; $p < 0.001$) and with Gender of parents as the mediator variable ($\beta = .280$; $p < 0.001$), reveals that the value of beta (or strength of effect) slightly increased. This implies that there was evidence of mediation. Hence, it was concluded that Gender of parents

mediates the effect of Birth order on Israeli children's Personality traits of Neuroticism and Extraversion.

In summary, the results show that one path between Birth order and Personality Traits in the direct effect model with Socioeconomic background (education level of parents, family income and occupation of parent) as the mediator variable was statistically significant. In this regards, the null hypothesis 5 that socioeconomic background (education level of parents, family income and occupation of parent) does not mediate the effect of Birth order on Israeli children's personality was rejected since the p-values were less than 0.05 threshold level. In particular, comparing the effect of Birth Order on Extraversion among the Israeli children without mediator ($\beta = .275$; $p < 0.001$) and with socioeconomic background (education level of parents, family income and occupation of parent) as the mediator variable ($\beta = .262$; $p < 0.001$), reveals that the value of beta (or strength of effect) had slightly decreased. This implies that there was evidence of mediation. Hence, it was concluded that socioeconomic background (education level of parents, family income and occupation of parent) mediates the effect of Birth order on Israeli children's Personality traits of Extraversion.

In summary, the results show that two paths between Birth order and Personality Traits in the direct effect model with Familiar background as the mediator variable were statistically significant. In this regards, the null hypothesis 6 Familiar background does not mediate the effect of Birth order on Israeli children's personality was rejected since the p-values were less than 0.05 threshold level. Moreover, comparing the effect of Birth Order on Neuroticism among the Israeli children without mediator ($\beta = .152$; $p = .031$) and with Familiar background as the mediator variable ($\beta = .150$; $p = .033$), reveals that the value of beta (strength of effect) slightly decreased.

This implies that there was evidence of mediation. In addition, comparing the effect of Birth Order on Extraversion among the Israeli children without mediator ($\beta = .275$; $p < 0.001$) and with Familiar background as the mediator variable ($\beta = .271$; $p < 0.001$), reveals that the value of beta (or strength of effect) slightly decreased. This implies that there was evidence of mediation. Hence, it was concluded that Familiar background mediates the effect of Birth order on Israeli children's Personality traits of Neuroticism and Extraversion.

Discussion

It was in the results that the sampled Israeli students had slightly higher neuroticism trait levels. The Israeli children scored a mean of 21.82. Neuroticism is often associated with having self-blame and wishful thinking when faced with a stressful life event, and the prolonging of these conditions can result in the increase of psychological distress and anxiety levels (Jylha & Isometsa., 2006). Hence, the slightly high neuroticism level among the Israeli students could be interpreted to mean that the anxiety and stress levels were being managed mainly by the children themselves. Moreover, children from different home environments tend to be treated, by the parents, differently and such experiences from home environments and their peer interactions in school are likely to influence their behavior (Gilmore, 2016).

On the other hand, findings of this study show that extraversion (mean = 17.76) and agreeableness (mean = 11.58) had lower average scores which also conforms to the findings of past studies such as by MacCann et al. (2009) and Heng et al. (2017). This can be explained by the fact that the sampled school going Israeli children was more helpful, disciplined, serious, and conservative in their character. Comparing personality traits between Jewish and Arab children revealed that there were no

significant mean differences between them in terms of Neuroticism, Conscientiousness, Openness, Extraversion and Agreeableness. These findings were also contrary to the expectation given that the Jewish children belong to Jewish sector which has unique identity from the Arab children who belong to the Arab sector. Moreover, results contradict reports by Mayseless & Salomon (2003). However, children tend to have similar personality since they are less oriented towards certain culture or sector and do not care much about their ethnic identity like the adults do.

The study examined the impact of birth order on Israeli children's personality traits while controlling for variables like gender of child, age of child and grade level of child. According to the findings, Birth order had a positive and significant effect on personality trait of Neuroticism among the Israeli children. The findings support the arguments by Eckstein & Kaufman (2012) on positive linkage between personality and birth order. Individuals with high neuroticism level tend to be vulnerable to more stress and emotionally reactive, and have a high chance of interpreting ordinary things as very threatening while minor frustrations are interpreted to be hopelessly difficult. Findings of this also study revealed that single children had a significantly higher Neuroticism level than middle children. According to Sulloway (2010), firstborns tend to have higher score of neuroticism compared to later born children. However, in this study, no difference was found in neuroticism level when comparison was made between firstborn and laterborns.

In addition, there was evidence in this study that Birth order had a positive and significant effect on personality trait Extraversion among the Israeli children. Extraversion is associated with positive emotions as well as the tendency of seeking other people's company and stimulation, hence, the manifestation of this trait involves the engagement of an individual with external world. Findings of this study revealed

that firstborn children have a significantly higher Extraversion level than middle children. The results support those of Sulloway (2010) who argued that firstborns have higher extraversion mainly in dominance aspect while later born siblings have high sociability aspect of extraversion.

On the other hand, the Israeli children with different birth ranks did not significantly differ with regards to their trait of conscientious. The findings are not consistent with those of Marini & Kurtz (2011) who found that older children have higher score in conscientiousness compared to laterborns. The study did not find any effect of birth order on openness trait. This is contrary to the reports by Sulloway (2011) that birth order correlates with conscientious, openness and agreeableness. Besides, the study findings were not able to replicate those of Salmon & Schumann (2011) where it is report that children of different order of birth do differ in their traits of openness.

Based on findings of this study, it can be posited that the Israeli children's personality traits of agreeableness was not the outcomes of their distinctive family niches or being dethroned. This indication is in line with those of Bleske-Rechek and Kelley (2014). However, the findings contradict the predictions by Sulloway (2010) that middle children have high agreeableness while youngest child and firstborns have lower level of agreeableness. This is based on the fact that youngest children and firstborn are more aggressive and dominant compared to middle children. That is, they are more modest, self-effacing and help others, and tend to be compassionate, avoid conflicts, good natures and enjoy cooperation.

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