

The Core Aspects of Mother Expressed Emotions as a Predictor of Vocational Identity in Pakistani Adolescents: A Structural Equation Modelling Approach

Shammem Akhtar, Institute of Clinical Psychology, University of Management and Technology, Sialkot Campus. Email: shammem.akhtar@gmail.com

Abstract

Expressed emotion are used to denote the intensity of emotional expression in mental health within the family context. Intensities of expressed emotion might be high or low and might be considered 'negative or 'positive. Mother Expressed Emotion' refers to the range of expressed emotion towards the individuals. Adolescents are individuals that are in their next decade of life and face internal struggles or circumstances that might compromise directly their mental health. The home climate is main element which put influences on adolescents. The current study's aim was to identify and explore the role of mother expressed emotions and its association with vocational identity. For this, a study was conducted on 500 mothers and 500 their adolescents from 2022 to 2023 academic year. To measure the mother expressed emotions; parental expressed emotions scale and vocational identity scale were used for adolescents (Holland et al., 1980). The data was analysed through structural equation modelling by using SPSS 27 and AMOS. Significant positive prediction was found among mother expressed emotions as positive remarks found 20% and warmth found 45% predictor of vocational identity in adolescents, while emotional-over involvement showed -16% significantly negative predictor of vocational identity among adolescents. Mother expressed emotions are found significant predictor of vocational identity.

Key words; expressed emotions, vocational identity, emotional adolescents. *perception.*

Article history: Submitted: 25-09-2023, Accepted: 20-11-2024, Published: 30-12-2024

Copyright License: This is an open-access article under the CC BY license

(<http://creativecommons.org/licenses/by/4.0/>).

DOI: <https://doi.org/10.51732/njssh.v10i2.224>



Journal homepage: www.njssh.nust.edu.pk

1. INTRODUCTION

Vocational identity basically leads to the goals that become helpful for a good career decision making. A strong vocational identity facilitates the persons to perform better at workplace. This phenomenon rooted in different assumptions related to career. As first, it is underpinned in assumptions of constancy of individual features and safe jobs in restricted organizations. Second, it helps in conceptualizes careers as the stable order of stages. Conceptions, like career preparation, vocational identity, career development, and

career phases each are helped to calculate people's regulation to work situations, supposing a relatively great constancy of the settings and people's activities (Adăscăliței & 2019). As children's reach to their adolescent stage and developed, they experience a variety of possible identities in different domains of functioning. In the field of occupation, identity refers to an individual's belief of who would be as a worker, and what type of work would best suit his/her personality (Harrington & O'Shea, 1980).

Parents are the most influential people in their children's lives, they not only shape their children's behaviour but also impacts throughout their lives, parents are the initial source for developing a concept of self-worth and help them to learned effective ways for personal growth (Eccles & Wigfield, 2020). Especially, during the adolescent era of individuals, the influence of parenting has an enduring effect on the behaviours of individuals. Parenting refers to raising a child, not just because of a biological relationship (Craigie, 2012).

Formerly, very few studies reported the relationship between family environment and career development among adolescents, however. Despite persistent challenges, Pakistan has witnessed a steady rise in women's workforce participation, including mothers. Recent studies reveal that approximately 25% of Pakistani women engage in the labour market. However, cultural and societal norms continue to hinder greater involvement. Working mothers, in particular, face distinct struggles in striking a balance between professional and family responsibilities (Amber & Chichaibelu, 2023). Work-family conflict is also a significant issue, with many working mothers reporting lower job satisfaction due to the pressures of managing household and childcare duties. Studies suggest that those who work long hours or non-standard shifts are more prone to experiencing family relationship strain, contributing to reduced overall well-being (Faiza et al., 2023). In terms of vocational identity development among adolescents, maternal employment and the emotions expressed by mothers can play a role. For adolescents, their mothers' work-life balance and emotional availability influence their own career aspirations and identity. Research from Pakistan reflects the importance of supportive work environments that allow mothers to manage their careers without sacrificing family connections, which could in turn positively impact their children's vocational identity development. Parental support in world exploration means the process of searching for an identity that makes an individual to get influenced by various factors (Akhtar et al., 2022).

Donald Super's theory emphasizes that vocational identity evolves over the lifespan through different developmental stages: growth, exploration, establishment, maintenance, and disengagement. Adolescents typically engage in the exploration phase, where they test various career roles to form their vocational self-concept (Super, 1990). Although these theories have confirmed the importance of the determinant of career development and have advanced understanding nature of the relationship between

children and parents. At this stage very young children have awareness of careers development and have better decision power (Seligman, 1988).

As noted above, vocational choices can be certainly influenced by family environment and social context. Most of the studies focused on positive outcomes in terms of academic motivation, career decision making and development, life satisfaction and well-being greatly depend on the adolescents' perception of their parents' support (Chávez, 2016).

Few studies found with mother expressed emotions and its relationship with youth psychopathology and a study found positive associations between mother's expressed quality of relationship and her child's working memory. As a measure of the emotional climate of the home, most extant studies involving expressed emotions have focused on relations between parents' use of expressed emotions and children's emotional development and regulation (Parola & Marcionetti, 2022). Research on the impact of parental influence particularly the emotions expressed by mothers on the vocational identity of adolescents in Pakistan is limited. While parental roles in education and social development have been studied, the specific effects of maternal emotional expressions on career identity development in adolescents remain underexplored. Considering the collectivist nature of Pakistani society, where family bonds and expectations strongly influence individual choices, this gap in the literature is significant.

Apart from the institutional sources and social network support individuals for vocational guidance, it has noticed that the role of family more specifically parents is extremely relevant (Akhtar & Mughal, 2023). A mother's expression of positive remarks and warmth creates a nurturing environment that empowers a child to explore their interests, pursue their passions, and develop a strong vocational identity with confidence and self-assurance. On the basis literature review in the perspective of current study following questions were formulated: (A) How do different types of mothers' expressed emotions (e.g., warmth, positive remarks, and emotional overinvolvement) impact the vocational identity development of adolescents in Pakistan? (B) To what extent does maternal warmth support adolescents in forming a strong vocational identity within the Pakistani cultural context?

2. METHODOLOGY

2.1. Sampling

The target population was mothers (any age) and their adolescents whose age range was 12-19 years with a mean age of 16 years. A sample of 500 mothers and 500 adolescents were recruited by the rule of thumb as 5 to 10 observations on single questions (boys=46% girls=54%) from the community and educational institutes by using convenient sampling strategy, after getting the educational institutions list from the District Education Office of some cities (Faisalabad, Multan and Sialkot) 15 educational

institutions (8 schools and 7 colleges) were selected. Adolescents approached with permission of the authorities and teachers of 7th to 12th-grade students and graduates. For keeping the ethical standards, only those adolescents were scrutinized whose parents gave the consent to participate in the study. Students were divided into three groups using the world health organization criterion from 11 years to 13 years and from 17 years to 18 years.

2.2. Measures

The Vocational Identity Scale (VIS), developed as part of the My Vocational Situation (MVS) inventory by Holland, Daiger, and Power in (1980), was designed to measure the clarity of an individual's vocational identity. It consisted of 18 items where respondents rated their level of agreement with statements related to their career interests and goals. Scores were typically summed to generate a total, with higher scores indicating a stronger and more defined vocational identity. The scale demonstrated high internal consistency, with Cronbach's alpha values ranging from 0.80 to 0.90, indicating reliability. Furthermore, it had good construct validity, correlating well with career decision-making self-efficacy and negatively with career indecision. The scale widely used in educational and career counselling contexts, particularly to assess adolescents and emerging adults as they explore career options and solidify their vocational identities (Holland et al., 1980; Robbins & Patton, 1985).

Parental Expressed emotions scale developed by Akhtar and Bano in (2021) was used to measure the expressed emotions of critical comments, positive remarks, emotional overinvolvement, hostility and warmth. It consisted of 31 items and respondents rates their behaviours on five-point Likert scale from 1 to 5 and these emotions categories in two subcategory, positive (positive remarks and warmth) and negative (critical comments, hostility and emotional overinvolvement) the scale established its high KMO value 0.858, CFI value 0.95. PEES exhibited a high level of internal consistency and reliable psychometric properties of sub scales as emotional over-involvement (0.81), positive remarks (0.85), and warmth (0.72). At the same time, split-half reliability of sub scales was emotional over-involvement (0.75), positive remarks subscale was (0.85), warmth and subscale were (0.81), at 0.01 level of significance. Each category score represented parents expressed emotion kinds.

2.3 Procedure

The cross-sectional study was conducted in different cities (of Pakistan) from September 2022 to June 2023. Ethical research review committee (ERRC) of Riphah International University Faisalabad approved the procedure. The methods and materials included in the current study have been reviewed, permitted, and endorsed by the Board.

Four important ethics of individual human rights; self-esteem, skill, responsibility, and integrity were addressed in the study (Akhtar et al., 2022).²⁰ The target population was mothers (any age) and their adolescents whose age range was 12-19 years with a mean age of 16 years. Adolescents approached with permission of the authorities and teachers of 7th to 12th-grade students and graduates. For keeping the ethical standards, only securitized those adolescents whose parents gave the consent to participate in the study. Students were divided into three groups using the world health organization criterion from 11 years to 13 years and from 17 years to 18 years. The adolescents have clearly instructed about instruments and response choices instructions. Vocational identity scale with demographic sheet was provided and applied on adolescents. The researcher selected only the married mothers of the adolescents and excluded all who were single or divorced and suffered any mental and physical disability. They were approached at their working and convenience place. For measuring the role of mother expressed emotions parental expressed emotions scale was administered on mothers. They were instructed to read the items cautiously while responding. It was informed to the participants that participation will be voluntary, confidentiality was assured and ethical consideration maintained by the researchers. Data was analysed by using SPSS-27 version by applying frequencies, regression analysis and AMOS-27 for structural equation modelling.

3. RESULTS

Structural equation modelling was performed to test the research model. The data was analysed in four steps; first data cleaning was done by removing missing values, in the second step, descriptive statistical measure was computed for various socio demographic variables. further normality analysis run that represented the Z score (standard deviations) away from the mean (Schober et al., 2020). Descriptive statistics applied to represent demographic characteristics of data. (Table-1,2) The sample consisted of 500 mothers and 500 adolescents. Among the mothers, the majority (37%) were aged 36-45, followed by 25-35 (29%) and those above 46 (33%). Most mothers reported a monthly income of 0-5000 (76%), with fewer earning 10,000-30,000 (14%) or above 31,000 (9.4%). A large proportion of mothers (76%) were housewives, while 12% were self-employed or employed. Nearly half (46%) were educated, and 68% resided in urban areas, with the remaining 32% in rural areas. The family system was fairly balanced, with 48% in extended families and 52% in nuclear families.

The adolescent sample comprised 46% boys and 54% girls, with ages distributed as follows: 9-12 years (12%), 13-15 years (26.4%), and 16-19 years (15.8%). Institutionally, 16.4% of adolescents attended school, 35% attended college, and 2.8% were in other educational settings. Regarding siblings, 51% had 1-3 siblings, while 3.2% had four or more siblings. Table-4, the regression analysis was applied to show predictive relationship among variables. Results revealed that mothers expressed emotions of emotional-over involvement 16%, (negatively significant) positive remarks 20% and

warmth 45% variations in vocational identity and $p < 0.00$ representatively strong significance. In the next step measurement model was tested by applying confirmatory factor analysis (CFA). The rotated component matrix determined what the components represent as factors (Table-5). For estimating the measurement model confirmatory factor analysis including factor loading, average variance extracted, Cronbach alpha, very important regarding any scale (Akhtar & Abbas, 2024). and composite reliability are presented in Table-6. Then, finally, a structural equation model (SEM) generated by testing the hypothesis. The depicted model explained three exogenous variables as warmth, positive remarks and emotional over- involvement and one endogenous variable as vocational identity. (Figure-1)

In Structural equation model root mean square residual (SRMR) and normed fit index (NFI) are the two common measures of determining measurement model fit. In current research both measures have been used to determine the overall model fit. The thresholds for these measures are $SRMR < 0.05$ and $NFI > 0.85(81)$. The model fit results showed that the SRMR was 0.46 which was less than the threshold criteria, and the estimated NFI is 0.78 which is also appropriate and near to threshold criteria. Both these criteria value assured the fitness of the measurement model.

4. DISCUSSION AND CONCLUSION

In Pakistani culture, family dynamics and gender roles significantly influence the relationship between parents and children, especially in vocational guidance. Mothers often play a pivotal role in emotional expression and support, which can impact adolescents' vocational identities. The findings from the current study indicate that maternal expressed emotions specifically warmth and positive remarks are significant predictors of adolescents' vocational identity. These results align with existing literature that emphasizes the importance of parental emotional support in fostering children's career development (Delvecchio & Salcuni, 2016; Cordeiro, 2018). Additionally, the observed negative influence of emotional over-involvement suggests that while support is essential, excessive parental involvement can hinder adolescents' autonomy in vocational decision-making. Results showed that adolescents whose mothers expressed their emotions in the form of warmth and positive regards having a clear and secure understanding of one's career goals, abilities, educational interests, and personal values. It has been concluded that positive emotions should be practiced by mother so that their adolescents can be grow positively. Understanding the demographic variables can provide insight into the ways these factors contribute to adolescents' career development and decision-making processes.

The outcome of the current research indicated that vocational identity in adolescents is significantly and positively influenced by parental styles of warmth, positive remarks and emotional- over-involvement. Previous literature also provides related research as in one study explored that how did perceived parenting and

psychological needs relate to identity development and psychosocial adjustment in 12th grade students (Ahmed et al., 2023).

Findings suggest that mother expressed emotions is a protective factor for career decision-making. For doing so in current study structural equation model has been applied which together, which explain 0.43 of the variances; how-ever the total variance explains 0.65 that is slightly better for appropriate acceptance of hypothesis. Mother expressed emotions predict direct predictor of vocational identity in adolescents. In the same way the results revealed that emotional over involvement, positive remarks and warmth shows $0.00 < 0.001$, significant predictor of vocational identity in adolescents. This is in line with previous research showing that the adolescents' perception of their parents as need-supportive relates to experiences of basic need satisfaction (song et al.,2022), which, in turn, is associated with higher confidence in proactive exploration and commitment making and with the experience of greater well-being during critical career transitions as describe Cordeiro in 2018. Results of earlier studies conformed the findings of current research that adolescents whose mothers expressed their emotions in the form of warmth and positive regards having a clear and secure understanding of one's career goals, abilities, educational interests, and personal values. Previously this kind of study found with the role of teacher's emotional support in career counselling (Haerens, 2015).

The study concluded that positive emotions should be practiced by mothers so that their adolescents can grow positively. Moreover, in the current study only positive emotions are studied with the vocational identity of adolescents. In further studies, negative expression of emotion might be planned. This research emphasizes the vital influence of maternal expressed emotions on adolescents' vocational identity. The positive relationship between supportive emotional expressions and clear career aspirations suggests that nurturing family environments are crucial for fostering healthy identity development. Therefore, targeted interventions might be planned to enhance maternal emotional expression that led to stronger vocational identities in adolescents, promoting their overall well-being (Akhtar & Abbas, 2024; Delvecchio & Salcuni, 2016). Policymakers should implement parental education programs that emphasize the importance of emotional expressions within the home. Workshops designed to help mothers create supportive emotional climates could significantly improve adolescents' career development outcomes.

Additionally, policies that encourage work-life balance for mothers are essential, allowing them to engage positively with their children. This initiative aligns with the United Nations Sustainable Development Goals (SDGs), particularly Goal 4 (Quality Education) and Goal 5 (Gender Equality), which advocate for supportive educational environments and family structures that promote the healthy development of children and adolescents (Langton, & Berger 2011; Cordeiro, 2018). While the study highlights maternal expressed emotions influence on vocational identity, it has limitations due to its reliance on self-reported data and a cross-sectional design. Self-reports can introduce bias, as responses may reflect social desirability rather than true experiences, especially in a collectivist culture like Pakistan. The cross-sectional approach also limits causal inferences, capturing only a single time point. Future research could address these issues

by using longitudinal designs to better understand the evolving impact of mother expressed emotions on vocational identity.

Table-1 : Demographic Characteristics of the mothers Sample (N=500)

Variables	Mothers	N	%
Age	25-35	147	29%
	36-45	187	37%
	46-above	166	33%
Monthly Income	0 to 5000	380	76%
	10000-30000	73	14%
	31000 above	47	9.4%
Occupation	Self Employed	60	12%
	Employed	60	12%
	House wife	380	76%
Education	Educated	233	46%
	Uneducated	38	7.6%
Residence	Urban	340	68%
	Rural	60	12%
Family system	Extended	240	48%
	Neutral	260	52%

Note: Mother Expressed emotions (emotional over-involvement, positive remarks and warmth

Table- 2: Demographic Characteristics of the adolescents Sample (N=500)

Variables	Adolescents (N % (boys=46% & girls=54%)	
Age		
9-12 Years	60	12%
13-15 Years	132	26.4%
16-19 Years	79	15.8%
Institution		
School	82	16.4%
College	175	35%
Others	14	2.8
Siblings		
1-3	255	51%
4 & above	16	3.2%

Table-3: Normality Statistics for Variables of the Study (N=1000)

			Skewness		Shapiro-Wilk		Kurtosis		
Variables	Mean	Median	Statistic	SE	z.value	Sig.	Statistic	SE	z.value
PEE	107.03	108.00	-.121	.109	1.11	.002	-.577	.218	2.64
VI	18.91	17.99	-.729	.108	6.60	.000	-.162	.218	0.78

Table 4: Summary of linear Regression Analysis (N=500)

Variables	R	R ²	Δ R ²	F	P
Expressed Emotions of Mothers as predictor of vocational identity					
Emotional over-involvement	0.40	-0.165	0.164	98.73	0.00 ^b
Positive remarks	0.45	0.204	202	127.25	0.00 ^b
Warmth	0.67	0.452	0.451	410.49	0.00 ^b

Table-5: Factor Loading of Mother expressed emotions scale and vocational identity after Varimax Rotation (N=500)

Sr. #	Item No.	Warmth I	PSR (II)	EOI (III)	VI (IV)
1	7	0.91			
2	42	0.91			
3	8	0.88			
4	9	0.88			
5	29	0.88			
6	41	0.86			
7	40	0.80			
8	20	0.67			
9	9		0.81		
10	3		0.80		
11	7		0.79		
12	10		0.77		
13	6		0.74		
14	5		0.96		
15	14			0.89	
16	8			0.81	
17	2			0.80	
18	13			0.79	
19	6			0.77	
20	10				0.96
21	16				0.89
22	11				0.85
23	15				0.82
24	18				0.77
25	19				0.76
26	13				0.81
27	14				0.74
28	17				0.69
29	15				0.67

Figure 1 structural equation modelling for the mother expressed emotions and vocational identity in adolescents

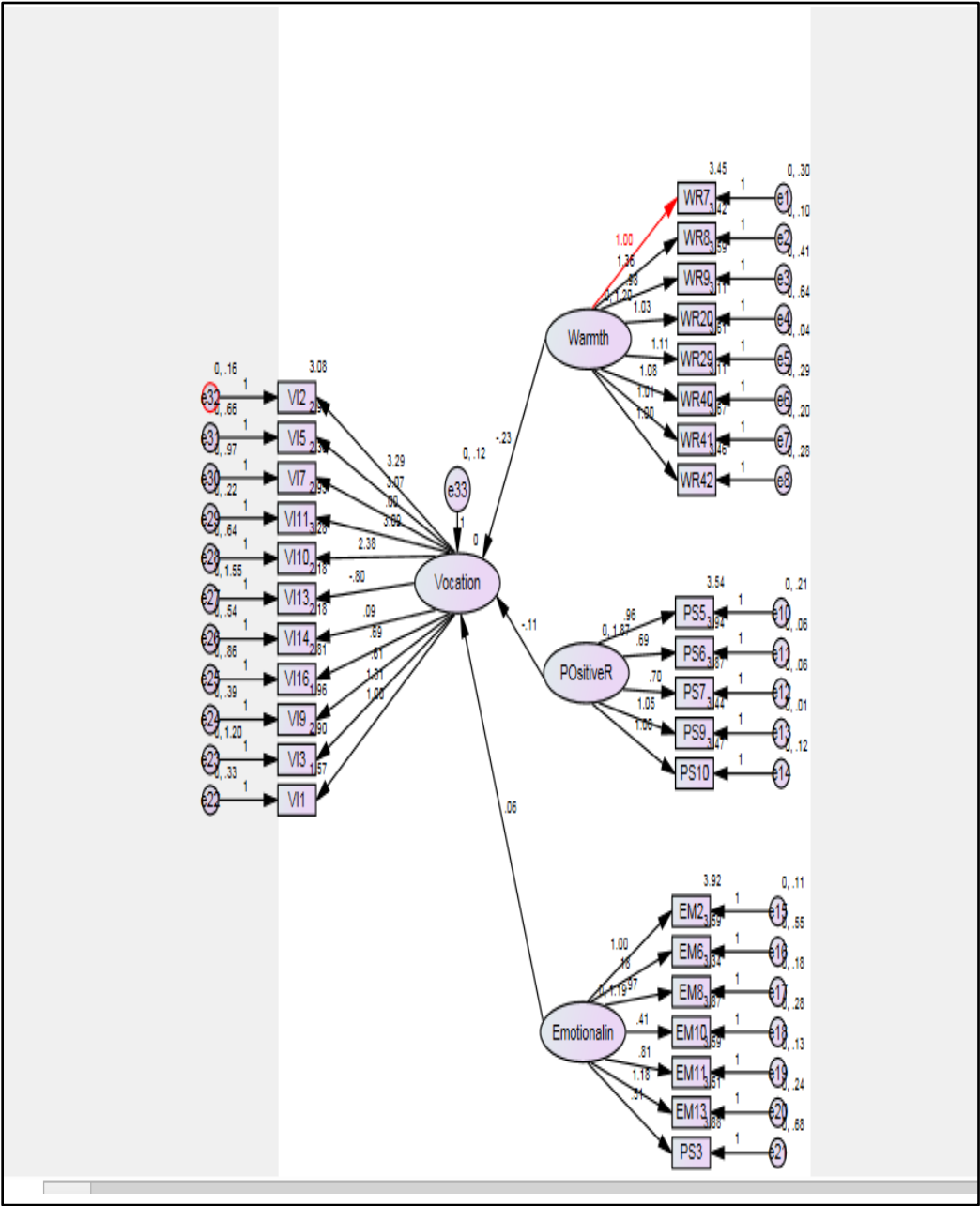


Table-6: Improved Model Fit Indices for mothers expressed emotions and

vocational identity (N=1000)

CMIN/DF	CFI	RMSEA	SRMR	NFI	TLI	P Value
35.279	0.719	0.46	0.56	0.75	0.80	.000
0.50	0.87	0.041	0.040	0.835	0.852	.000

REFERENCES

Adăscăliței, C. (2019). The Relationship between Vocational Identity and Educational Adaptation at High School Students. *Moldavian Journal for Education and Social Psychology*, 3(1), 43-51. <https://doi.org/10.18662/mjesp/09>

Ahmed, S. F., Montroy, J., Skibbe, L., Bowles, R., & Morrison, F. (2023). The timing of executive function development is associated with growth in math achievement from preschool through second grade. *Learning and Instruction*, 83, 101713. <https://doi.org/10.1016/j.learninstruc.2022.101713>

Akhtar, S., & Abbas, M. M. (2024). Structural equation modeling on the role of mother expressed emotions as a predictor of vocational identity among adolescents. *Journal of Xi'an Shiyou University, Natural Science Edition*, 20(6), 223-235.

Akhtar, S., & Bano, Z. (2021). Development and psychometric properties of parental expressed emotions scale. *Pak Armed Forces Medical Journal*, 71(Suppl-1), S219-23. <https://doi.org/10.51253/pafmj.v71i1Suppl-1.6213>

Akhtar, S., & Mughal, F. A. R. (2023). Role of Fathers' Expressed Emotions in Psychopathology and Social-Emotional Competence in Adolescents. *Journal of Rawalpindi Medical College*, 27(1), 102-107. DOI: <https://doi.org/10.37939/jrmc.v27i1.1956>

Akhtar, S., Parveen, T., Zia, H., Shahid, N., & Saeed, R. (2022). Role of Parental Expressed Emotions as Contributing Factor of Depressions in Adolescents. *Journal of Positive School Psychology*, 6(7), 2437-2444.

Akhtar, S., Rafiq, A., Kousar, R., Rizwan, U., & Arshad, S. (2022). Role of Fathers' Expressed Emotions as Determinant of Depression and Social-Emotional Competence in Adolescents. *Journal of Positive School Psychology*, 6(11), 2089-2095.

Amber, H., & Chichaibelu, B. B. (2023). Patterns and causes of female labor force participation: An age–period–cohort analysis for Pakistan. *Population Research and Policy Review*, 42(20). <https://doi.org/10.1007/s11113-023-09751-9>

Lopez, F. G. (1989). Current family dynamics, trait anxiety, and academic adjustment:

- Test of a family-based model of vocational identity. *Journal of Vocational Behavior*, 35(1), 76-87. [https://doi.org/10.1016/0001-8791\(89\)90049-3](https://doi.org/10.1016/0001-8791(89)90049-3)
- Brown, G. W. (1985). The discovery of expressed emotion: Induction or deduction? In J. Leff & C. Vaughn (Eds.), *Expressed emotion in families: Its significance for mental illness* (pp. 7-25). New York: The Guilford Press.
- Chávez, R. (2016). Psychosocial Development Factors Associated with Occupational and Vocational Identity Between Infancy and Adolescence. *Adolescent Res Rev* 1, 307–327 <https://doi.org/10.1007/s40894-016-0027-y>
- Cordeiro, P. (2018). The influence of parental support on adolescent career development: A review of the literature. *Journal of Career Development*, 45(1), 28-41. <https://doi.org/10.1177/0894845317696791>
- Craigie, T. L., Brooks-Gunn, J., & Waldfogel, J. (2012). Family structure, family stability and outcomes of five-year-old children, *Families, Relationships and Societies*, 1(1), 43-61. <https://doi.org/10.1332/204674312X633153>
- Delvecchio, E., & Salcuni, S. (2016). Parenting styles and adolescents' psychosocial adjustment: A longitudinal study. *Journal of Adolescence*, 48, 1-10. <https://doi.org/10.1016/j.adolescence.2016.01.006>
- Eccles, J. S., & Wigfield, A. (2020). From expectancy-value theory to situated expectancy-value theory: A developmental, social cognitive, and sociocultural perspective on motivation. *Contemporary educational psychology*, 61, 101859. <https://doi.org/10.1016/j.cedpsych.2020.101859>
- Faiza, M., Ali, M. U., Majeed, A., & Abbas, A. (2023). Effects of long working hours on family relations: Evidences of working women in Pakistan. *Journal of Social Sciences Review*, 3(2), 1089–1101. <https://doi.org/10.54183/jssr.v3i2.348>
- Gupta, A., Chong, S., & Leong, F. T. (2015). Development and validation of the vocational identity measure. *Journal of Career Assessment*, 23(1), 79-90. <https://doi.org/10.1177/1069072714523088>
- Haerens, L., Aelterman, N., Vansteenkiste, M., Soenens, B., & Van Petegem, S. (2015). Do perceived autonomy-supportive and controlling teaching relate to physical education students' motivational experiences through unique pathways? Distinguishing between the bright and dark side of motivation. *Psychology of sport and exercise*, 16, 26-36. <https://doi.org/10.1016/j.psychsport.2014.08.013>
- Harrington, T. F., & O'Shea, A. J. (1980). Applicability of the Holland (1973) model of vocational development with Spanish-speaking clients. *Journal of Counseling Psychology*, 27(3), 246. <https://doi.org/10.1037/0022-0167.27.3.246>
- Holland, J. J., Gottfredson, D. C., & Power, P. G. (1980). Some diagnostic scales for research in decision making and personality: Identity, information, and

- barriers. *Journal of personality and social psychology*, 39(6), 1191-1200.
<https://doi.org/10.1037/h0077731>
- Holland, J. L., Daiger, D. C., & Power, P. G. (1980). *My Vocational Situation: Description of an Experimental Diagnostic Form for the Selection of Vocational Assistance*. Psychological Assessment Resources.
- Langton, C. E., & Berger, L. M. (2011). Family structure and adolescent physical health, behavior, and emotional well-being. *Social Service Review*, 85(3), 323–357.
<https://doi.org/10.1086/661922>
- Parola, A., & Marcionetti, J. (2022). Career decision-making difficulties and life satisfaction: The role of career-related parental behaviors and career adaptability. *Journal of Career Development*, 49(4), 831-845.
<https://doi.org/10.1177/0894845321995571>
- Robbins, S. B., & Patton, M. J. (1985). Self-psychology and career development: Construction of the Superiority and Vocational Identity Scales. *Journal of Counseling Psychology*, 32(2), 261-266. <https://doi.org/10.1037/0022-0167.32.2.261>
- Schober, P., Mascha, E. J., & Vetter, T. R. (2021). Statistics from A (agreement) to Z (z score): a guide to interpreting common measures of association, agreement, diagnostic accuracy, effect size, heterogeneity, and reliability in medical research. *Anesthesia & Analgesia*, 133(6), 1633-1641.
 DOI: <https://doi.org/10.1213/ANE.0000000000005773>
- Seligman, L., Weinstock, L., & Owings, N. (1988). The role of family dynamics in career development of 5-year-olds. *Elementary School Guidance & Counseling*, 22(3), 222-230. <http://www.jstor.org/stable/42868824>
- Song, J., Ip, K. I., Yan, J., Lui, P. P., Kamata, A., & Kim, S. Y. (2022). Pathways linking ethnic discrimination and drug-using peer affiliation to underage drinking status among Mexican-origin adolescents. *Experimental and clinical psychopharmacology*, 30(5), 609.
<https://psycnet.apa.org/doi/10.1037/pha0000504>
- Super, D. E. (1990). *A life-span, life-space approach to career development*. In D. Brown & L. Brooks (Eds.), *Career choice and development* (pp. 197–261). Jossey-Bass. [https://doi.org/10.1016/0001-8791\(80\)90056-1](https://doi.org/10.1016/0001-8791(80)90056-1)
- United Nations. (2017). Department of Economic and Social Affairs. Population Division. World population prospects: the 2017 revision: key findings and advance tables. Working Paper No. ESA/P/WP/248.

