# The mediating effect of perceived social support between received social support and resilience

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**Abstract**

This quantitative research aimed to fill the research gap by examining the mediating effect of perceived social support between received social support and resilience. This study's measure of social support comprised three types: emotional, informational, and instrumental. A total of 120 participants were recruited using snowball sampling. To examine the mediating effect, Hayes Process Macro Model 4 was used as a tool for mediation analysis. The result showed that only perceived emotional and informational support were found to mediate between received social support and resilience. Results supported the critical role of cognitive processing after receiving social support in affecting resilience levels. It could further apply to the counseling services, suggesting that psychoeducation or follow-up on clients' perception of the social support they received from their social network matters to the therapy outcome. Social support and cognitive processing efforts are indispensable in practical counseling sessions.

Keywords: Cognitive appraisal; perceived support; resilience; social support; support.

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## 1. Introduction

Social support has always been an exciting topic in psychology and counseling, especially since the emergence of COVID-19 (Hu et al., 2022; Miyashita et al., 2023). Studies in recent years have looked into the relationship between variables like social support, quality of life, emotional intelligence, and life satisfaction (Yousefi Afrashteh & Moradi, 2022; Novara et al., 2023). It was apparent and accepted by the public that receiving social support could increase the resilience level (Veilleux et al., 2021), but the mechanism still needed to be explored or studied. This study aims to study how social support affects one's resilience level. It suggests that an individual undergoes a cognitive process after receiving social support, which results in perceived social support, thus influencing the resilience level (Eagle et al., 2019). In other words, perceived social support mediates the relationship between received social support and resilience.

Social support is viewed as an adaptive resource that protects and assists individuals in different aspects, like mental health and self-concept (Zhang et al., 2017; Sinokki et al., 2009), which are beneficial to individuals. The functions of social support can be classified into three categories: instrumental, informational, and emotional (Uchino, 2004). Instrumental support means providing tangible help; informational support means semi-tangible support, assisting in the form of suggestion or opinion; emotional support is relatively abstract. It was provided through showing empathy or love to others (Malecki & Demaray, 2003). Ultimately, social support would help to increase the resilience level of an individual.

Received social support was understood in the quantity and frequency of social support received from others (Eagle et al., 2019). Perceived social support was considered visible received social support and can be measured in terms of the quality and satisfaction of social support received (Maisel & Gable, 2009; Fan & Lu, 2020). The resilience level measured in this study was defined as trait resilience, meaning individuals' asset characteristics that help to adapt to adversities they face (Earvolino-Ramirez, 2007; Hu et al., 2015; Parsons et al., 2016; Liebenberg et al., 2019). The characteristics include self-efficacy, faith, and positive affect (Hu et al., 2015).

### 1.1. Literature Review

The previous studies related to social support mainly studied the following relationships, namely (a) the relationship between received social support and resilience, (b) the relationship between perceived social support and resilience, and (c) the comparison of received social support and perceived social support. In the below paragraphs, it is to discuss the details regarding (a), (b), and the proposed mechanisms of the mediating effect of perceived social support.

*1.1.1.Relationship between received social support and resilience*

Past literature showed a positive correlation between received social support and resilience by increasing the positive affect, self-efficacy, and maintaining the belief in social support (Maisel & Gable, 2009; Eagle et al., 2019). Two theories could explain its mechanism: Social Development Theory (Denhere et al., 2013) and Social Support Deterioration Deterrence Model (Chang, 2021).

Social Development Theory visualizes the learning process of a person with a concept named "Zone of Proximal Development (ZPD)" (Denhere et al., 2013). The concept states that help from a more knowledgeable other, which can be understood as a kind of social support, can help an individual to explore their potential, thus increasing competence and self-efficacy, then resilience (Denhere et al., 2013; He et al.,2023; Tadai, Straughan, Cheong, Yi & Er, 2023). The concept is presented in Figure 1.

**Figure 1**
*Zone of proximal development (ZPD)*
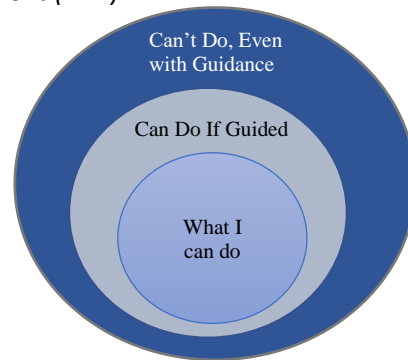


**Source:** adopted from Denhere et al., 2013, pp. 372.

The Social Support Deterioration Deterrence Model states that belief would deteriorate, and distress would result from a stressful situation. However, social support acts as a stress suppressor and, therefore, could increase resilience by maintaining the belief in the accessibility of social support (Chang, 2021; Shi et al., 2022).

### 1.1.2. Relationship between perceived social support and resilience

Perceived social support was positively related to resilience among individuals with high self-esteem (Trouillet et al., 2009; Ruiz-Rodríguez, 2021). The relationship was reported among participants with a low level of perceived stress (Ruiz-Rodríguez, 2021) and provided buffering effect on low resilience levels toward mental health (Sinokki et al., 2009). The following two theories, namely "Arnold's Appraisal Theory of Emotions" (Reeve, 2018) and "The Broaden-and-Build Theory" (Yang et al., 2006), would be used to explain the mechanism.

"Arnold's Appraisal Theory of Emotions" states that emotion is affected by appraising the situation faced by an individual (Reeve, 2018). The appraisal would undergo four steps: situation, appraisal, emotion, and action (Reeve, 2018). An individual would appraise a situation by giving meaning to it, thus deciding the emotion and corresponding action, resulting in a new situation (Shields & Kappas, 2006; Moors, 2020). If an individual appraised the situation positively, the subsequent emotion would increase resilience (Hu et al., 2015).

Fredrickson introduced Broaden-and-Build Theory in 2001, stating that positive emotional experiences, like happiness and joy, would build up the resources of an individual, strengthen the bonding between people, and enhance self-efficacy, thus, resilience (Yang et al., 2020).

### 1.1.3. Mediating effect of perceived social support

Past studies have shown that perceived social support's impact on resilience is more substantial than received social support (Uchino, 2004; Franks et al., 2004). However, the relationship or meaning behind the result still needed to be explored. This study aims to test the mediating effect of perceived social support on the relationship between received social support and resilience. Two models were used to help understand the operating mechanism of the mediating effect, namely the "Buffering model" and "Cognitive model".

The "Buffering model" operated based on reducing the strength of negative responses and correcting maladaptive behaviors in stressful situations (Zhou & Lin, 2016). Perceived social support appeared through assessing the effect of social support on dealing with stressful events, thus correcting the

maladaptive behaviors and forming successful behaviors and coping strategies. During the said process, the ability and self-efficacy of an individual would increase, thus resilience level (Zhou & Lin, 2016).

The "Cognitive model" consisted of two concepts, the meaning-making process, and cognitive mapping. In the meaning-making process, people interpret past experiences by giving a global meaning to the experiences and interpret the present situation by giving a situational meaning (Parsons et al., 2016). If the meanings were different, the person would experience distress. Through the meaning-making process, the discrepancy would be reduced, thus assisting them in adjusting to the stressful situation and increasing resilience (Parsons et al., 2016).

Cognitive mapping states that when an individual uses behavior to handle a stressful event but fails, the person would adopt another behavior from the pool of past successful experiences to deal with the event (Parsons et al., 2016). The individual's stress would reduce by successfully solving the problem, thus increasing resilience. The pool of past successful experiences was built by positively appraising the behavior adopted to cope with stressful situations, like positively appraising the social support received (Parsons et al., 2016).

### 1.2. Purpose of study

The objective of this study was to investigate if perceived social support enacted a mediating effect on the relationship between received social support and resilience. The following diagram (Figure 2) shows the research framework.

**Figure 2**
*Research framework*
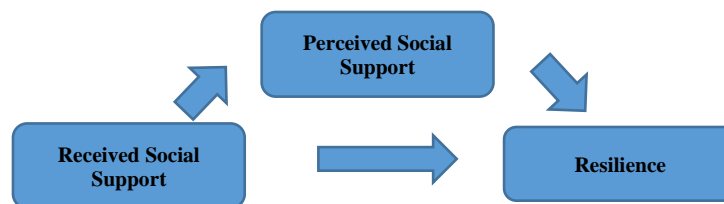


### 2. Materials and Methods

### 2.1. Participants

A total of 120 valid responses from the general population were analyzed after being collected through snowball sampling and after screening out response errors. Participants were all adults over 18, and only essential personal particulars, namely age range, gender, education level, and relationship status, were collected.

### 2.2. Ethics

No personal particular which may reveal their identity was collected, and the ethical committee approved the study. A written consent form was distributed to the participants.

### 2.3. Data Collection Instrument

Each participant was invited to answer 49 questions comprising three measurements. Two of the measurements were extracted from the "Questionnaire on the Frequency of and Satisfaction of Social Support (QFSSS)" (García-Martin et al., 2016) for testing the degrees of received social support and

perceived social support. The last measurement was the "Connor-Davidson Resilience Scale (CD-RISC)" for measuring trait resilience (Connor & Davidson, 2003).

The QFSSS measured three functions in social supports, namely emotional, instrumental, and informational, which would be encountered in four parties: partner, parents, friends, and community (García-Martin et al., 2016). Participants were asked to rate the quantity of support received from the above four parties, in terms of 'frequency', on a five-point Likert scale (García-Martin et al., 2016). A total of 12 questions, 'How often do you receive "respective support" from "respective parties"?' were used in measuring received social support. Further to the measurement of received social support, participants were then asked to answer 12 follow-up questions, 'How satisfied are you with "respective support" received from "respective party"?', rating their level of satisfaction with social support received. The scale was also on a five-point Likert scale.

The left 25 questions were from CD-RISC, designed by Dr. Connor in 2003, for measuring trait resilience. Participants were asked to rate the accuracy of 25 descriptions on a five-point Likert scale. To make the measurements better fit the circumstances in Hong Kong, a three-step back translation was used to obtain Chinese translations (Douglas & Craig, 2007), which were used for the data-collecting process.

### 3.Results

Nine variables were obtained from the three measurements: one primary variable along with three sub-variables on received social support, one primary variable along with three sub-variables on perceived social support, and one variable on resilience.

The scales obtained relatively high Reliability, with Cronbach's Alpha rated above .75. But two sub-scales of emotional support obtained a comparatively low Cronbach's alpha of below .70. The detail is listed in Table 1.

**Table 1**

*Mean differences and Reliability of scales measuring received social supports, perceived social supports, and resilience*

| Scale | No of item | Mean | Std. Deviation | Cronbach's Alpha |
|---|---|---|---|---|
| Received Emotional Support | 4 | 10.27 | 3.03 | .657 |
| Received Instrumental Support | 4 | 11.20 | 3.11 | .758 |
| Received Informational Support | 4 | 10.43 | 3.16 | .758 |
| Received Social Support | 12 | 31.90 | 8.42 | .889 |
| Perceived Emotional Support | 4 | 11.74 | 2.73 | .642 |
| Perceived Instrumental Support | 4 | 12.27 | 3.21 | .786 |
| Perceived Informational Support | 4 | 11.70 | 3.05 | .759 |
| Perceived Social Support | 12 | 35.71 | 8.28 | .898 |
| Resilience Level | 25 | 58.17 | 15.66 | .953 |

### 3.1.Correlation Analysis

Before moving to the hypothesis analysis, correlation analysis was used to test the positive interaction between received social support and perceived social support and resilience, respectively (Gogtay &

Thatte, 2017). It was revealed that all eight received and perceived social support variables were significantly positively correlated with resilience level.

### 3.2.Result regarding Hypothesis

A bootstrapping method using SPSS Process Macro Model 4 was used to test the hypothesis (Abu-Bader & Jones, 2021). Results showed that only perceived emotional and informational support mediated the relationship between respective social supports and resilience. The other two variables of social support, namely overall perceived social support and perceived instrumental social support, did not exert a mediating effect.

An indirect effect was found between received emotional support and resilience by perceived social support based on 5000 bootstrap samples (b=1.28, SE=.54, Bootstrap $CI_{95}$ = .22 and 2.39). Perceived emotional support was found as a mediator and accounted for approximately 63.1% of the total effect on resilience [$P_M$ = (1.28) / (2.03)]. The below tables 2 and 3 displayed the result of the said mediation analysis.

**Table 2**

*Analysis of the mediating effect of perceived emotional support*

| Dependent Variables | b | SE | t | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| Resilience | .75 | .72 | 1.04 | .30 | -.67 | 2.17 |
| Perceived Emotional Support | .72 | .05 | 14.52 | .00** | .62 | .82 |
| Resilience via Perceived Emotional Support | 1.78 | .80 | 2.24 | .03* | .20 | 3.36 |
| **Effects** | **b** | **SE** | **t** | **p** | **95% Confidence Interval** | |
| Direct | .75 | .72 | 1.04 | .30 | -.67 | 2.17 |
| Indirect | 1.28 | .54 | | | .22 | 2.39 |
| Total | 2.03 | .44 | 4.65 | .00** | 1.17 | 2.90 |

Predictor: Received Emotional Support
* p<.05    ** p<.001

**Table 3**

*Analysis of the mediating effect of perceived informational support*

| Dependent Variables | b | SE | t | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| Resilience | .66 | .69 | .96 | .34 | .070 | 2.02 |
| Perceived Informational Support | .76 | .05 | 14.00 | .00** | .65 | .87 |
| Resilience via Perceived Informational Support | 1.41 | .71 | 1.98 | .05 | -.00 | 2.83 |
| **Effects** | **b** | **SE** | **t** | **p** | **95% Confidence Interval** | |
| Direct | .66 | .69 | .96 | .34 | .07 | 2.02 |
| Indirect | 1.08 | .45 | | | .15 | 1.94 |
| Total | 1.74 | .43 | 4.07 | .00** | .89 | 2.58 |

Predictor: Received Informational Support
** p<.001

The other two variables, namely perceived social support and instrumental support, did not have any indirect effect between received social support, instrumental support, and resilience. Thus, no mediating effect was revealed. Tables 4 and 5 displayed the mediation analysis result on perceived social and instrumental support.

**Table 4**

*Analysis of the mediating effect of perceived social support*

| Dependent Variables | b | SE | t | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| Resilience | .22 | .32 | .68 | .50 | -.42 | .86 |
| Perceived Social Support | .86 | .044 | 19.63 | .00** | .78 | .95 |
| Resilience via Perceived Social Support | .59 | .33 | 1.79 | .08 | -.06 | 1.24 |
| **Effects** | **b** | **SE** | **t** | **P** | **95% Confidence Interval** | |
| Direct | .22 | .33 | .68 | .50 | -.42 | .86 |
| Indirect | .50 | .27 | | | -.07 | 1.01 |
| Total | .72 | .16 | 4.58 | .00** | .41 | 1.04 |

Predictor: Received Social Support

** p<.001

**Table 5**

*Analysis of the mediating effect of perceived instrumental support*

| Dependent Variables | b | SE | t | p | 95% Confidence Interval | |
|---|---|---|---|---|---|---|
| Resilience | .51 | .76 | .67 | .50 | -.99 | 2.00 |
| Perceived Instrumental Support | .84 | .05 | 15.33 | .00** | .73 | .95 |
| Resilience via Perceived Instrumental Support | 1.26 | .73 | 1.72 | .09 | -.19 | 2.71 |
| **Effects** | **b** | **SE** | **t** | **p** | **95% Confidence Interval** | |
| Direct | .51 | .76 | .68 | .50 | -.99 | 2.00 |
| Indirect | 1.06 | .70 | | | -.50 | 2.30 |
| Total | 1.57 | .44 | 3.56 | .00** | .70 | 2.44 |

Predictor: Received Instrumental Support

** p<.001

## 4.Discussion

The analysis of results revealed that only perceived emotional and informational supports existed, mediating effect on the relationship between received emotional support and resilience and received informational support and resilience. The mechanism would possibly be explained by "Coping and Appraisal Theory". Coping and Appraisal Theory states that the resilience level of an individual depends on how the individual copes with a stressful event, which is undergone in two steps, coping and appraisal (Folkman, 2010; Velichkovsky, 2009). The first step was by taking a concrete move to face the situation to cope with the adverse situation, like receiving social support (Folkman, 2010); the second step was by

appraising the situation after coping, like processing the social support by rating its satisfaction and quality (Velichkovsky, 2009).

Regarding the first step, the coping process consists of two types, namely "emotion-focused coping" and "problem-focused coping" (Folkman, 2010). "Emotion-focused coping" is applied when the stressful situation cannot be changed objectively. Thus, the individual could only change their emotion subsequently to cope with the situation (Folkman, 2010); while "Problem-focused coping" is applied when the stressful situation is changeable by an external force (Folkman, 2010). Regarding social support, emotional and information support would be more suitable for "emotion-focused coping" as it required the change intra-personally, like building courage or non-tangible support within an individual. Instrumental support could be considered an external force in "problem-focused coping" (Folkman, 2010).

The second step, the appraising process, stated that the resilience level could be affected by three types of appraisals: primary appraisal, secondary appraisal, and the combination of primary and secondary appraisals (Velichkovsky, 2009). Primary appraisal represents appraising an individual's situation, while secondary appraisal represents appraising the resources like social support received (Velichkovsky, 2009). Mediating effect functioned under secondary appraisal (Velichkovsky, 2009).

Emotional and informational support could be classified as emotional support, while instrumental support could be classified as objective support (Uchino, 2004). Emotional support requires cognitive processing, like secondary appraisal (Uchino, 2004). If the second appraisal were positive, the individual's emotion would also be positive, thus increasing the resilience level (Velichkovsky, 2009). Objective support changed the situation from the origin, reducing the elements that caused the situation to become stressful. It did not rely much on cognitive processing, and it would only affect the appraisal in a primary way (Velichkovsky, 2009). Thus, did not exist mediating effect on perceived instrumental support.

## 5.Conclusions

The above analysis revealed that both received and perceived social supports would not predict resilience, although they were significantly positively correlated to resilience. However, previous studies showed that social support would predict the psychotherapy change in relieving negative psychological symptoms. Therefore, further study is essential to study the prediction effect on received and perceived social supports.

Results regarding the hypothesis supported that specific cognitive appraisals would predict an individual's resilience level, meaning psychoeducation on cognitive processing is essential in a counseling session. The discrepancy between the needs and received social support was shown in terms of scoring in the measurement of perceived social support. Proper psychoeducation and exercises, like gratitude practice during counseling sessions, help to reduce the discrepancy, thus increasing resilience.

This study examined the mechanism of the increase of resilience level after receiving social support and stated that cognitive processing played an essential role in increasing resilience. This study began with an individual receiving social support. However, before receiving social support, how an individual anticipated the degree of social support they would receive when asked, which is named "anticipated social support", was also important. Studies showed that anticipated social support would better assess the mental health of individuals than received social support. It was worth studying the relationship between anticipated social support and resilience, especially for those who could not quickly receive social support. It is essential to study how anticipated social support would help increase resilience.

"Anticipated social support" measured people's perceptions of the availability of social support. Previous studies showed that receiving social support would shape anticipated social support. In other words, individuals past experiences in receiving support affected their belief in the expected support which

would be received. Perceived social support was evaluated from past experiences of specific received social support like received emotional support. Anticipated social support was found would be affected by the overall experiences or feelings of past experiences in social support. It was easy for a layperson to mix up the two variables, and it required extra caution to ensure the validity.

Two significant limitations were the small sample size with a high proportion of missing data and the limited group of participants. The population in Hong Kong is over 7 million people, and the sample size of 120 is relatively small and challenging to interpret the effect of the test on the general population. The small sample size made it easier to have a type II error by accepting a false null hypothesis. Moreover, of the 120 participants, around 25% had missed answering questions related to community, which would reduce the statistical power and representativeness of the sample size.

The second limitation was the limited group of participants as the participants were recruited by snowball sampling, which was initiated from the researcher's social network, which needed to be more comprehensive. Therefore, the result of this study would require more work to represent the effect on the general population of Hong Kong people.

Though the results hardly represented the whole population in Hong Kong, they did support that cognitive appraisal played an essential role in affecting the resilience level. These were supported by the mediating effects between received emotional and informational support and resilience, namely perceived emotional and informational support.

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