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Revision and Application of Attitude Scale for Qualitative Research in Psychology among Chinese Undergraduates

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Abstract

Building on foreign literature about the attitude toward qualitative methods for psychology and combining with our local experience of teaching qualitative methods to psychology students, we revised and validated the original scale of Attitude towards Qualitative Research in Psychology (AQRP), generating Attitude Scale for Qualitative Research in Psychology (ASQRP). The scale was also applied to evaluate the effect of our course on qualitative methods for psychology. Three studies were conducted to explore, revise and validate the scale. In study 1, we translated and revised the original scale with eighteen items from the previous study. In a sample of 311 students enrolled in psychology courses, we surveyed and conducted a confirmatory factor analysis on four dimensions of the original scale. Among them, there was zero correlation between perceived lack of validity and qualitative orientation, while the two dimensions of the original scale were negatively correlated. The results of the fitness index were slightly away from expectations. In study 2, we added six locally adapted items to the scale and surveyed again to gain a sample of 249 psychology students. Exploratory analysis established a three-dimension structure of the Attitude Scale for Qualitative Research in Psychology (ASQPR) containing "perceived lack of validity," "capturing the lived experience," and "time- and resource- intensive," with twenty-two items remaining and the dimension of "qualitative orientation" in the original scale reduced. Correlations between the ASQPR and Knowledge about Qualitative Research Scale and Psychology as a Science Scale showed acceptable validity. In study 3, the ASQPR was applied to assess students' learning outcomes who took part in the psychological qualitative methods courses for a semester. We used a pretest-posttest design to track the attitude changes in three samples of students (179 in total). After the course, students increased their knowledge about qualitative research and realized the advantages of qualitative approach (i.e., capturing the lived experience) and quantitative approach. They also generally think of qualitative research as time and resource-demanding. However, the ingrained perception of qualitative research as lacking validity remained unchanged. In sum, the current study developed a tool suitable for Chinese students to assess their attitudes towards qualitative research, which can assist in curriculum reform and construction involving teaching qualitative methods.

Keywords: qualitative research, attitude, teaching qualitative, qualitative approach

1. Introduction

In the process of the diversification of psychological research methods, qualitative research methods are gradually being accepted by the mainstream, which puts forward a new demand for training psychology talents in qualitative research methods. This demand drives us to reform relevant courses to include more qualitative research methods in teaching (He, 2019). To take a reformation on the curriculum of qualitative research in psychology, understanding students' cognition and attitude towards qualitative research methods and practice are essential.

However, there is a lack of such measurement tools in China. Therefore, this study reviews foreign studies on attitudes towards qualitative research in psychology and combines the experience of curriculum reform in qualitative research in psychology to revise an attitude scale for qualitative research in psychology, which is applied to curriculum evaluation to test its effect. Finally, we compiled the psychological qualitative research attitude scale for applying to and promoting relevant courses.

1.1 Qualitative Research Methods

Qualitative research methods are a set of research methods compared with quantitative research methods, including interpretative phenomenological analysis, thematic analysis, grounded theory, narrative analysis, discourse analysis, and conversational analysis (He & Zheng, 2019). These methods often differ from quantitative research methods based on logical positivism from a philosophical standpoint. They emphasize the meaning and nature of phenomena, activities, or events, explore people's experiences and perspectives, and focus on understanding and explaining phenomena rather than the possible universal laws behind phenomena.

Qualitative research in psychology has a short history but a long past. The theoretical construction and development of such psychological pioneers as Wundt, Freud, Piaget, and James all relied on qualitative research methods to a large extent (He & Zheng, 2019; Kvale, 1999). However, there was no "qualitative research" term in psychological journals before the 1980s (Wertz, 2014). Since about 1980, the field of qualitative psychology has been gradually established (Brinkmann, 2015), and "qualitative research" has received more recognition in psychology since the 1990s (Gough & Lyons, 2016). Psychological scholars in America, Germany, and China have set up special committees on qualitative research and journals covering qualitative research in psychology (He & Zheng, 2019). This indicates the historical significance, function, and regression of qualitative research methods in psychological research.

The development of qualitative research in psychology requires more students and scholars trained in qualitative methods. Both quantitative and qualitative research methods have strengths in contributing to the field of psychology. The APA (American Psychological Association) guide to undergraduate psychology states that students should learn to answer research questions in quantitative and qualitative ways to prove or disprove research hypotheses. However, students majoring in psychology have been trained in courses with quantitative research methods as the mainstream since the beginning of enrollment, so it is difficult for them to change from quantitative thinking mode to diversified thinking concepts at once (He, 2019). Understanding students' cognition and attitude about qualitative research are necessary for reforming and practicing the teaching of qualitative courses in the psychology department.

1.2 Attitude towards Qualitative Research Methods

Though there are few published studies reporting students' attitudes towards the qualitative approach, the scattered studies in this field convergently represent their dominant opinions about the issue. For example, when interviewed about their views on qualitative and quantitative methods, psychology students from Finland and the United States tended to take a dichotomous view, choosing their own side between qualitative and quantitative methods (Murtonen, 2005). In a similar vein, Canadian graduate students and teachers were interviewed to explore their views on qualitative research (Walsh-Bowers, 2002). Though holding different interests in psychology, most of them endorse the trend of methodological diversity and recognize the natural fit between qualitative research methods and psychological phenomena. However, they were concerned about resistance to qualitative research from mainstream psychology. Similarly, quality-oriented doctoral students at a University in New York were concerned about whether being a "qualitative researcher" would affect their academic careers. Quantification-oriented students question the legitimacy of qualitative research, especially when qualitative research meets the validity, reliability, and universality of quantitative criteria (Rabinowitz & Weseen, 1997). The international literature on attitudes to qualitative research suggests that, despite some interest in qualitative approaches, psychology students and psychologists are aware of the marginalization of qualitative research in the academic field of psychology.

In contrast to only using a qualitative approach to explore students' attitudes towards qualitative research, Roberts & Povee moved further by integrating qualitative and quantitative approaches. They used a qualitative approach to explore the content of psychology students' attitudes towards qualitative methods (Povee & Roberts, 2014b) and mixed methods (Povee & Roberts, 2014a). Based on the themes established during the qualitative exploration, they developed the AQRP scale (Roberts & Povee, 2014a).

1.3 The Goals of the Current Study

Developing and constructing a curriculum system suitable for qualitative research in psychology must understand

the relevant people's understanding and attitude towards qualitative research. However, there is still a lack of corresponding measurement tools in China. Therefore, this study aims to develop a Chinese measurement tool based on the AQRP scale. Study 1 was to verify the fitting degree of the AQRP scale in local data. Study 2 was to develop a Chinese version Attitude Scale for Qualitative Research in Psychology (ASQRP). Study 3 applied the ASQRP to teaching practice examining the effect of qualitative courses on the changes in student's attitudes toward qualitative research.

2. Study 1 Confirmatory Analysis for AQRP

The purpose of study 1 was to test the fitting degree of the dimension structure of the AQRP scale in the sample of Chinese psychology students.

2.1 Method

We conducted an English-Chinese translation of 18 items of the AQRP scale (Roberts & Povee, 2014a), and then reversed translation by others, so as to determine the Chinese translation of the AQRP scale. To test the dimensional structure of the AQRP scale in a sample of Chinese students, 311 (76 male) students from the department of Psychology were investigated. They were between 18 and 25 years old (M = 20.58, SD = 0.87). AMOS maximum likelihood estimation method was used to fit the collected data with the dimension structure of the original scale. Chi-square/degree of freedom (χ2/ DF) ratio, comparative fitting index (CFI), approximate root mean square error (RMSEA), standardized root mean square residual (SRMR), goodness of fit index (GFI) and Tuck-Lewis index (TLI) were used as fitting indexes.

2.2 Results and Discussion

Confirmatory factor analysis was performed on 18 items using IBSM SPSS Amos 23 (see Figure 1). The results of fitting indexes are shown in Table 1.

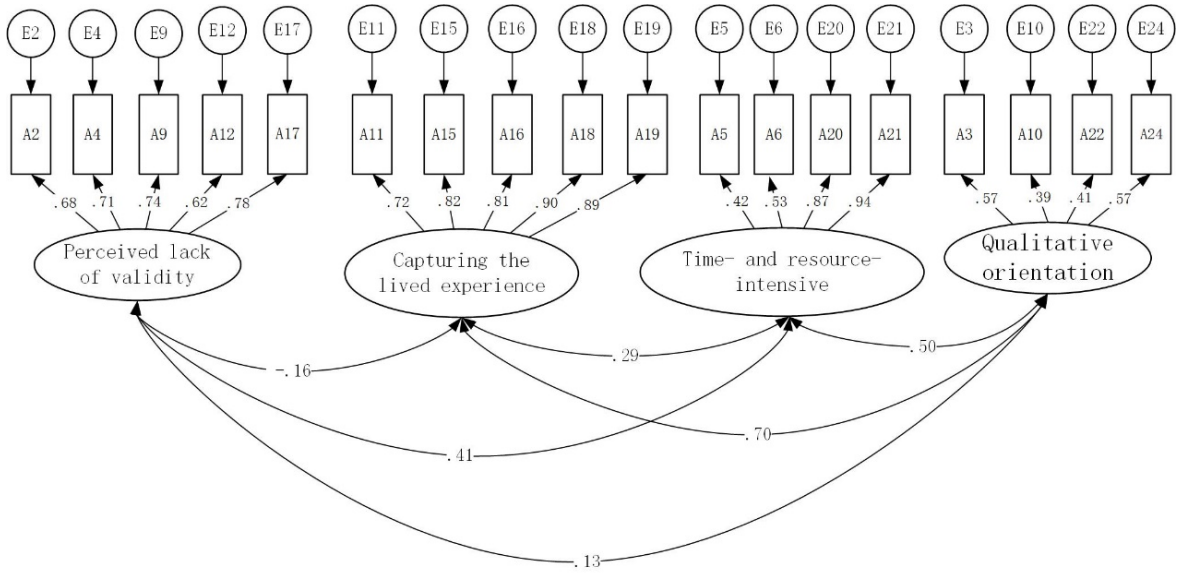

Figure 1. Standardized four-factor confirmatory factor analysis model

Table 1. fitting indexes for Chinese version of AQRP

χ^2/df	GFI	AGFI	RMR	RMSEA	CFI	TLI
3.15	0.87	0.83	0.12	0.07	0.90	0.88

Notes. GFI= goodness of fit index; AGFI=adjusted goodness of fit index; RMR= root mean square residual; RMSEA= approximate root mean square error; CFI= comparative fitting index; TLI= Tuck-Lewis index.

Among the absolute fitting indexes, the chi-square degree of freedom ratio (CMIN/DF) is slightly greater than 3, AGFI value is slightly less than 0.90, RMR value is greater than 0.05, and root mean square error RMSEA value is slightly greater than 0.05, which are not within the recommended fitting value range and belong to the acceptable range. Among the relative fitting indexes, the comparative fitting index (CFI) is 0.90, and the Tuck-Lewis index

(TLI) is slightly less than 0.90. The former reaches the recommended value, while the latter is slightly inferior. Perceived lack of effectiveness and qualitative orientation has zero correlation, but these two dimensions in the original study were negatively correlated, with a correlation coefficient of -0.36. If the qualitative methods were perceived to be not effective, then we would be less likely to use such an approach. It seems normal if these two dimensions are negatively related. In interviewing the students engaging in qualitative methods courses, we found that both qualitative and quantitative approaches were considered effective. However, the qualitative method operation was perceived as time-consuming and tedious. They tend to do quantitative studies. It makes qualitative practice not regular. So the two dimensions show zero correlation.

3. Study 2: Developing Attitude Scale for Qualitative Research in Psychology

As the Chinese version of the original AQRP scale was not completely satisfactory in psychometrics, in Study 2 we adapted the scale by adding six more items and explored its underlying factor structure.

3.1 Method

3.1.1 Participants

Two hundreds and forty nine psychology students (male = 58) took part in the survey, with ages ranging from 18 to 23 (M = 20.48, SD = 0.79).

3.1.2 Revision to the Original Scale

We developed 6 items according to Chinese context and our experience in teaching qualitative method courses in psychology and added to the original AQRP scale (Roberts & Povee, 2014a). The 24 items anchoring at 7 point likert scale formed the Attitude Scale for Qualitative Research in Psychology (ASQRP), see Table 2.

Table 2. Items for ASQRP

1*. Qualitative research is not as useful as quantitative research.
2. Qualitative research is not as reliable as quantitative research.
3. Qualitative research is more interesting than quantitative research.
4. Qualitative research lacks scientific rigour.
5. Qualitative research is more expensive to conduct than quantitative research.
6. Qualitative research is harder to conduct than quantitative research.
7*. Conducting qualitative research is too exhausted.
8*. The results of qualitative research is not as credible as quantitative research.
9. Qualitative research lacks objectivity.
10. The most interesting findings in psychology are obtained with qualitative methods.
11. Qualitative research can capture the lived experience of the participants.
12. Qualitative research approaches is not as legitimate as quantitative research approaches.
13*. Qualitative research spends too much time.
14*. Qualitative research approaches can contribute unique value in some field of psychology.
15. Qualitative research has an important role in ‘soft’ area of psychology (e.g., community psychology).
16. Qualitative research can convey emotion.
17. Qualitative research is not as valid as quantitative research.
18. Qualitative research can capture the context underlying an issue.
19. Qualitative research can capture the complexity of the social world.
20. Conducting qualitative research would be really tiring.
21. Qualitative research is too time-consuming.
22. I am more experienced in conducting quantitative research than qualitative research.
23*. The results of qualitative research is not as reliable as quantitative research.
24. I have greater understanding of quantitative research than qualitative research.

Notes. * = ‘added items’.

3.1.3 Other Measures

Psychology as a Science Scale (PSS) consists of 20 items (containing five filler items and seven reversely scoring items) measuring students' perceptions of psychology as a science on a seven-point anchor, usually indicating a bias towards quantitative research in psychology (Friedrich, 1996). There are three factors underlying the items: perceptions of psychology as a hard science, the perceived value of methodological training and psychological research, and deterministic views regarding the predictability of human behavior. However, the scale is intended to be used as one dimension, that is, using the total score as an index (Friedrich, 1996). A higher score indicates a stronger bias toward quantitative research. The internal reliability in the current sample is 0.73. We expected a negative relationship between ASQRP and PSS.

We developed nine items to measure students' knowledge about qualitative research in psychology (Knowledge about Qualitative Research, KQR). Its internal reliability in the current study is 0.94. A higher score indicates greater familiarity and knowledgable. We expected a positive correlation between ASQRP and KQR.

3.2 Results and Discussion

3.2.1 Exploratory Analysis

Exploratory factor analysis was conducted on the collected data through SPSS22.0. The results of KOM and Bartlett's spherical test showed a KOM value of 0.877 and a p-value less than 0.5, indicating that the sample data were suitable for factor analysis. Following previous studies (Roberts & Povee, 2014a, 2014b), the principal axis factoring with varimax rotation and an eigenvalue-based extraction were conducted. Examination of the scree plot indicated that a three-factor solution provided a better fit to the data with a clear differentiation between the first three factors and the long tail. A forced three-factor extraction was then conducted. An iterative process was used to remove the items that did not load on any factor, cross-loaded above .3 on a second factor, or loaded less than .4 on the primary factor. Factors were checked for theoretical consistency of items and internal reliability. The final three-factor 22-item model, accounting for 57.37 percent of the variance, with factor loadings and alpha coefficients, is presented in Table 3. All factors have acceptable internal reliability.

Table 3. Factor loadings for exploratory principal axis factoring with varimax rotation for ASQRP

	Factor		
	1	2	3
Cronbach's alpha	0.90	0.91	0.87
Eigenvalue	4.48	4.41	3.73
Factor 1 = perceived lack of validity			
8*. The results of qualitative research is not as credible as quantitative research.	.809		
17. Qualitative research is not as valid as quantitative research.	.797		
23*. The results of qualitative research is not as reliable as quantitative research.	.793		
9. Qualitative research lacks objectivity.	.720		
2. Qualitative research is not as reliable as quantitative research.	.718		
4. Qualitative research lacks scientific rigour.	.692		
1*. Qualitative research is not as useful as quantitative research.	.640		
12. Qualitative research approaches is not as legitimate as quantitative research approaches.	.607		
Factor 2 = capturing the lived experience			
15. Qualitative research has an important role in 'soft' area of psychology (e.g., community psychology).		.858	
19. Qualitative research can capture the complexity of the social world.		.835	
18. Qualitative research can capture the context underlying an issue.		.821	
16. Qualitative research can convey emotion.		.808	
14*. Qualitative research approaches can contribute unique value in some field of psychology.		.783	
11. Qualitative research can capture the lived experience of the participants.		.727	
3. Qualitative research is more interesting than quantitative research.		.476	

Factor 3 = time- and resource- intensive	
21. Qualitative research is too time-consuming.	.838
20. Conducting qualitative research would be really tiring.	.814
7*. Conducting qualitative research is too exhausted.	.800
13*. Qualitative research spends too much time.	.761
6. Qualitative research is harder to conduct than quantitative research.	.609
5. Qualitative research is more expensive to conduct than quantitative research.	.484
22. I am more experienced in conducting quantitative research than qualitative research.	.388

Notes. Factor loadings less than .3 suppressed. Factor 1 = perceived lack of validity; factor 2 = capturing the lived experience; factor 3 = time- and resource- intensive; *= items added that adapted to Chinese context.

The first factor contains eight items reflecting students' cognition of qualitative research's validity. A higher score indicates inclining toward a quantitative approach rather than a qualitative approach. The second factor consists of seven items assessing students' attitudes towards qualitative research's value in the deep description of the lives. A higher score suggests stronger identification with qualitative methods' unique advantages over quantitative methods. The third factor includes seven items that mirror students' concerns about qualitative research's requirement of time, money, and stamina. A higher score reflects perceived obstacles in conducting qualitative research.

The dimension of qualitative orientation dropped out from the newly developed scale. The qualitative orientation reflects students' behavior intention to do qualitative research when deciding their study design. The fact that this dimension did not emerge in our sample may reflect the lack of practice experience in qualitative research. Things about qualitative research practice have not been grown in students' representations.

3.2.2 Validity

Convergent and divergent validity were examined through correlating scores on the newly developed ASQRP scales with KQR and PSS. The results are presented in Table 4.

There was no correlation between PSS and the time- and resource- intensive factor (r = -0.02, $p > 0.05$), but a negative correlation with the perceived lack of validity factor (r = -0.36, $p < 0.001$) and positive correlation with the capturing the lived experience factor (r = 0.50, $p < 0.001$), which is consistent with previous studies (Roberts & Povee, 2014a), though the correlation coefficient between PSS and the perceived lack of validity factor was not statistically significant in the previous study. The ASQRP showed positive relationships with the factor of 'capturing the lived experience' and the factor of 'time- and resource-intensive.' The results indicated that with growing knowledge about qualitative research, students believe the qualitative approach demands more time and resources but can provide a more detailed and rich description of the world. Simultaneously, as they know more about qualitative methods, they are less likely to consider qualitative research invalid. Overall, as students acquire more knowledge about psychology as a science and qualitative research, their attitudes toward qualitative research change to the better pole of the spectrum.

Table 4. Convergent and divergent validity of AQRP scales

Variables	1	2	3	4	5	6
1 perceived lack of validity	-					
2 capturing the lived experience	-0.17**	-				
3 time- and resource- intensive	0.34***	0.34***	-			
4 ASQRP	0.62***	0.54***	0.84***	-		
5 KQR	-0.14*	0.49***	0.17**	0.24***	-	
6 PSS	-0.36***	0.50***	-0.02	0.03	0.19**	-

Notes. *p<0.05; **p<0.01; ***p<0.001.

4. Study 3: ASQRP Applied to Course Evaluation

The purpose of Study 3 is to apply the revised scale to the assessment of actual course teaching and examine the change of students' attitude before and after course learning.

4.1 Participants and Procedure

Three waves of students took part in our qualitative research methods courses, including those who enrolled in the 2017, 2018, and 2019 academic years. When the qualitative research methods in psychology courses were offered, they were junior students. The three waves of students who took part in the course consisted of three samples whereby we administered the package of questionnaires, including ASQRP, KQR, and PSS. We took a pretest and posttest design. Data were collected before and after the course. See Table 5 for more detailed information about the participants.

Table 5. Students enrolled in the qualitative research course in the 2017, 2018, and 2019 academic years

Academic year	Sample size (*n*)	Male (female)	Age		
			Range	*Mean*	*SD*
2017	65	13(52)	18-26	20.68	1.03
2018	55	15(40)	20-23	20.58	0.71
2019	59	18(41)	19-24	21.29	0.95

4.2 Results and Discussion

Matched samples t test was employed to examine students' attitude change before enrolling in and after finishing the courses for qualitative research in psychology. The results showed in Tables 6, 7, and 8.

Table 6. Attitude changes after qualitative research courses for the 2017 academic year students (n = 65)

variables	*Mean ± SD*		Difference	*t*(64)	*p*	*Cohen'd*
	after	before	(after - before)			
PLV	2.57±0.94	2.70±0.89	-0.14	-1.15	0.254	0.14
CLE	5.84±0.77	5.30±0.78	0.54	5.12	<0.001	0.64
TRI	4.40±1.05	4.08±0.99	0.32	2.39	0.020	0.30
KQR	4.54±1.17	3.12±1.13	1.41	9.60	<0.001	1.19
PSS	5.28±0.62	5.20±0.61	0.08	1.11	0.270	0.14

Notes. PLV = Perceived lack of validity; CLE = Capturing the live experience; TRI = Time- and resource-intensive; KQR = Knowledge about qualitative research; PSS = Psychology as a science scale.

After taking the qualitative research methods courses, students' knowledge about qualitative research has increased significantly, $t(64) = 9.60$, $p < 0.001$, with a large effect size of $d = 1.19$. Their beliefs of psychology as a science remained unchanged, $t(64) = 1.11$, $p = 0.270$, $d = 0.14$. Their perception of validity maintained the status quo, $t(64) = -1.15$, $p = 0.254$, $d = 0.14$. They became aware of the time- and resource-intensive demanding of qualitative research practices, $t(64) = 2.39$, $p = 0.020$, $d = 0.30$, but also recognized deeply about the deep description nature of qualitative methods, $t(64) = 5.12$, $p < 0.001$, $d = 0.64$.

Table 7. Attitude changes after qualitative research courses for the 2018 academic year students (n = 55)

variables	*Mean ± SD*		Difference	t(54)	p	*Cohen'd*
	after	before	(after - before)			
PLV	2.72±0.99	2.84±1.05	-0.13	-0.68	0.498	0.09
CLE	5.73±0.68	4.77±1.13	0.96	6.95	<0.001	0.94
TRI	4.22±1.00	3.76±1.19	0.46	2.52	0.015	0.34
KQR	4.46±0.97	2.27±1.15	2.19	13.59	<0.001	1.83
PSS	5.31±0.55	5.22±0.64	0.09	1.22	0.228	0.17

Notes. PLV = Perceived lack of validity; CLE = Capturing the live experience; TRI = Time- and resource-intensive; KQR = Knowledge about qualitative research; PSS = Psychology as a science scale.

After taking the qualitative research methods courses, students' knowledge about qualitative research has increased significantly, $t(54) = 13.59$, $p < 0.001$, with a large effect size of $d = 1.83$. Their beliefs of psychology as a science remained unchanged, $t(54) = 1.22$, $p = 0.228$, $d = 0.17$. Their perception of validity maintained the status quo, $t(54) = -0.68$, $p = 0.498$, $d = 0.09$. They gained more understanding of qualitative research, i.e., it's time- and resource-intensive, $t(54) = 2.52$, $p = 0.015$, $d = 0.34$, but it can snatch the deep mental representation of experience, $t(54) = 6.95$, $p < 0.001$, $d = 0.94$.

Table 8. Attitude changes after qualitative research courses for the 2019 academic year students (n = 59)

variables	*Mean ± SD*		Difference	t(58)	p	*Cohen'd*
	after	before	(after - before)			
PLV	2.91±0.98	2.82±1.06	0.10	0.68	0.501	0.09
CLE	5.64±0.73	5.24±0.87	0.40	3.15	0.003	0.41
TRI	3.96±1.02	3.78±0.87	0.17	1.27	0.210	0.17
KQR	4.48±1.00	3.26±1.24	1.22	7.58	<0.001	0.99
PSS	5.29±0.55	5.23±0.56	0.06	0.91	0.365	0.12

Notes. PLV = Perceived lack of validity; CLE = Capturing the live experience; TRI = Time- and resource-intensive; KQR = Knowledge about qualitative research; PSS = Psychology as a science scale.

After taking the qualitative research methods courses, students' knowledge about qualitative research has increased significantly, $t(58)=7.58$, $p < 0.001$, with a large effect size of $d = 0.99$. Their beliefs of psychology as a science remained unchanged, $t(58)=0.91$, $p = 0.365$, $d = 0.12$. Though their perception of the validity($t(58)=0.68$, $p = 0.501$, $d = 0.09$) and the resource-demanding nature ($t(58)=1.27$, $p = 0.210$, $d = 0.17$) of qualitative research maintained the status quo, their recognition of qualitative methods' advantages in capturing the lived experience increased significantly, $t(58)=3.15$, $p = 0.003$, $d = 0.41$.

The pattern of results was generally consistent across the three samples who took part in our courses. The time- and resource-intensive dimension did not reach statistically significant for the 2019-year academic students, which may be due to the lingering COVID-19 pandemic. Since some parts of their courses had to offer online due to the pandemic, the teacher somehow lowered the requirement of their practice in doing the course's qualitative project. That made them underestimate (average mean 3.96 for 2019 vs. 4.40 for 2018 vs. 4.46 for 2017) the workload of the qualitative approach.

Another point that should be noted is that the belief in qualitative research is ingrained among students from the psychology department. Teachers delivered to them the tenet of the natural science nature of psychology and trained them intensively under a quantitative approach. However, they also realized the value of the qualitative approach, like the effect of deep description.

5. Discussion

Through Study 1 and 2, We revised and developed the Attitude Scale for Qualitative Research in Psychology,

which is a revised Chinese version of the original scale of Attitude towards Qualitative Research in Psychology. It demonstrated desirable reliability and convergent and discriminate validity. In Study 3, it showed sensitivity in assessing students' change of attitude enrolling in qualitative research methods courses. The scale can be a practical and effective tool in teaching qualitative research.

The trend of diversification of psychological research methods requires students to receive comprehensive and solid method training. The inherent requirement of the discipline is to offer qualitative research methods course. However, there are some problems in the current teaching of qualitative psychological research methods in China, such as lack of teachers, difficulty in the transformation of students' "quantitative thinking", and higher requirements on curriculum background knowledge (He, 2019). The advancement and development of qualitative research requires comprehensive and complex changes in psychological training, practice, and research, as well as epistemological shifts to facilitate these changes. We recognize that the necessary change process requires multiple strategies at multiple levels, and that the implementation of these strategies will require partnerships between psychologists and psychology students to achieve a shift in epistemological foundations to facilitate methodological pluralism (Breen & Darlaston-Jones, 2010). Therefore, it is necessary to investigate the attitude of psychology students to qualitative research in order to better realize the diversification of psychological research methods.

The ASQRP can provide assistance to teaching reforms of psychological research methods in China. At present, the method training of psychology students in most universities includes quantitative method courses and qualitative method courses. These two classes will be arranged in different semesters. The structure of separate courses on the two main meta-research paradigms, to the extent that students perceive qualitative and quantitative research as antithetical. Future teaching should incorporate qualitative and quantitative paradigms into the research methods curriculum to facilitate students' understanding of these paradigms' boundaries and overlaps and to change the dichotomous view of them (Terkildsen & Petersen, 2015). Future research can use the ASQRP to measure students' change of attitude to test the helpfulness of qualitative teaching courses, which is conducive to developing qualitative research in China.

One limitation of this study is that the sample was only from psychology students in one university, and the reliability and validity of the scale should continue to be tested when it is extended to other samples. The dimensional structure obtained in this study may be more suitable for undergraduates, while the theoretical dimensions of master, doctor and teacher groups may need more qualitative exploration before further revision and development. Another limitation is that the newly constructed scale needs further research to confirm its structure using confirmatory factor analysis.

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